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Passenger Manifest Information

PRELIMINARY REGULATORY EVALUATION

Office of the Assistant Secretary for Aviation and International Affairs

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## Introduction and Background

In the aftermath of the Pan American World Airways (Pan American) Flight 103 aviation disaster, and at the urging of the victims' families, President Bush created the Commission on Aviation Security and Terrorism (Commission). The Commission submitted its report, Report of the President's Commission on Aviation Security and Terrorism, to the President and the public on May 15, 1990. On November 16, 1990, President Bush signed the Aviation Security Improvement Act of 1990, P.L. 101-604 ("the Act"), which implements many of the recommendations made in the Commission's report.

In addition to aviation security recommendations, the Commission made recommendations that centered on the concerns of the victims' families in the period immediately following the disaster.<sup>1</sup> The concerns and recommendations are summarized in Report 101-845 that accompanied H.R. 5200, the predecessor bill to P.L. 101-604 (no report accompanied P.L. 101-604):

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<sup>1</sup> Recommendations regarding the notification of families of victims of an aviation disaster are found on page 102 of the Commission Report. They are:

- 1) The Department of State must quickly obtain from the airline in an aviation disaster a manifest with sufficient detail to permit the prompt identification of passengers.... [The airline should be required to] provide to the Department of State an initial manifest as soon as possible, but no later than one hour after learning of the incident. Such manifest should include the full name of each passenger, a passport number (if required for travel), and the name and telephone number of a person to contact in the event of an emergency....
- 2) The Department of State should always contact the families of victims -- even when the airline has made a prior notification of the deaths. In addition, it is essential for the Department promptly to provide a personal written notification.

The Commission [on Aviation Security and Terrorism] made numerous recommendations relating to international aviation security, . . . .

It [the Commission] also addressed deep concerns of the families of Pan Am 103's victims, centering on their treatment by the State Department in the aftermath of the tragedy. It recommended procedures to ensure that the families of victims receive prompt, humane and courteous treatment and service following overseas disasters. In order to facilitate prompt notification of next of kin, it recommended that airline manifests, including passport numbers and emergency contacts, be turned over to the State Department by the airlines immediately following an overseas airline disaster, and that families be notified promptly. (pp. 22-23)

### The Statutory Requirement

In order to implement these recommendations, section 203 (subsection 203[a]) of the Act amended section 410 of the Federal Aviation Act of 1958 to read as follows:<sup>2</sup>

#### "SEC. 410. PASSENGER MANIFEST.

"(a) **REQUIREMENT.**-- Not later than 120 days after the date of the enactment of this section, the Secretary of Transportation shall require all United States air carriers to provide a passenger manifest for any flight to appropriate representatives of the United States Department of State--

"(1) not later than 1 hour after any such carrier is notified of an aviation disaster outside the United States which involves such flight; or

"(2) if it is not technologically feasible or reasonable to fulfill the requirement of this subsection within 1 hour, then as expeditiously as possible, but not later than 3 hours after such notification.

"(b) **CONTENTS.**-- For purposes of this section, a passenger manifest should include the following information:

"(1) The full name of each passenger.

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<sup>2</sup> Section 204(a) of the Act sets forth Department of State policy on the notification of families of victims of aviation disasters as follows:

(a) **DEPARTMENT OF STATE POLICY.**-- It is the policy of the Department of State pursuant to section 43 of the State Department Basic Authorities Act to directly and promptly notify the families of victims of aviation disasters abroad concerning citizens of the United States directly affected by such a disaster, including timely written notice. The Secretary of State shall ensure that such notification by the Department of State is carried out notwithstanding notification by any other person.



- "(2) The passport number of each passenger, if required for travel.
- "(3) The name and telephone number of a contact for each passenger."

Further, section 203 of the Act stipulated that pursuant to the implementation of the passenger manifest requirement, the necessity and feasibility of requiring United States air carriers to collect passenger manifest information as a condition for passenger boarding be considered, and extending the passenger manifest requirement to foreign carriers be considered.

(b) **IMPLEMENTATION.**-- In implementing the requirement pursuant to the amendment made by subsection (a) of this section, the Secretary of Transportation shall consider the necessity and feasibility of requiring United States air carriers to collect passenger manifest information as a condition for passenger boarding of any flight subject to such requirement.

(c) **FOREIGN AIR CARRIERS.**-- The Secretary of Transportation shall consider a requirement for foreign air carriers comparable to that imposed pursuant to the amendment made by subsection (a).

Finally in this discussion of the statutory requirement, it is noted that section 203 of P.L. 101-604 has been codified as 49 U.S.C. 44909.

#### The Proposed Approach

The Notice of Proposed Rulemaking (NPRM) proposes to implement the requirement for passenger manifests as set forth in section 203 of the Act. It would do so by requiring passenger manifest information to be readily available for U.S. citizens and lawful permanent residents on all international flights -- on U.S. or foreign air carriers -- that operate to or from the United States between a point in the United States and a point in a foreign country (i.e., gateway-to-gateway).<sup>3</sup> In addition, passenger manifest information would be required to be readily available

<sup>3</sup> The term U.S. citizen will, hereafter, be used to mean U.S. citizens alone or, when referring to the coverage of the proposed rule, U.S. citizens and lawful permanent residents.

for foreign citizens on U.S.-flag carrier gateway-to-gateway flights. Passenger manifest information would not have to be collected for flights between two U.S. cities, even if the flight between these two cities was part of an overall flight itinerary that includes a U.S. and a foreign point.<sup>4</sup> The proposed rule provides for flexibility in meeting the intent of section 203 by also allowing a Memorandum of Understanding (MOU) between the Department of State and an air carrier regarding cooperation and mutual assistance following aviation disasters abroad to be an alternative means of compliance.

In 1994, there were about 48.2 million (one-way) trips taken by U.S. citizens between the United States and foreign points.<sup>5</sup> About 60 percent of these trips were on U.S.-flag air carriers and about 40 percent of them were on foreign-flag air carriers. The proposed rule would cover U.S. citizens on such trips. In 1994, there were about 23.3 million (one-way) trips taken by foreign citizens on U.S. carriers between the United States and foreign points. The proposed rule would cover foreign citizens on such trips. Were the proposed rule in effect in 1994, it would have thus covered about 71.5 million passenger (one-way) trips to and from the United States, and about 52.0 million (72.7 percent) of these trips

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<sup>4</sup> Moreover, passenger manifest information would not have to be collected for the U.S. carrier flights between foreign points that are not part of a flight itinerary that includes a U.S. and foreign point -- neither would it be collected from foreign air carriers in such an instance.

<sup>5</sup> The primary data source for trips taken to and from the United States is Immigration and Naturalization Service (INS) form I-92 reports. In I-92 reports, a trip is recorded each time a passenger departs from or arrives in the United States, and that same convention is adopted here. For example, a passenger that travels from New York to Cairo, Egypt, and then returns to New York will be recorded as having taken two trips.

would have been on U.S.-flag air carriers and about 19.5 million (27.3 percent) of these trips would have been on foreign-flag air carriers.<sup>6</sup>

There are currently 139 U.S. air carriers that hold Departmental authority under 49 U.S.C. 41102 to conduct scheduled or charter passenger operations internationally to and from the United States.<sup>7</sup> There are 18 U.S. commuter air

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<sup>6</sup> Estimates of the number of U.S. and foreign-citizen trips taken between the United States and foreign points and the numbers of these trips taken on U.S. and foreign flag carriers are based on INS form I-92 reports for all countries except Canada -- see Appendix 1 for excerpts from U.S. International Air Travel Statistics for calendar year 1994.

For U.S.-Canada scheduled service, estimates of the number of U.S. and foreign-citizen passenger trips are based on the overall percentages of U.S.-citizen (44.1 percent) and foreign citizen (55.9 percent) scheduled passenger trips between the United States and Canada (from table 15 of DOT's Origin and Destination Survey) times the volume of passengers between the United States and Canada from DOT T-100 reports. U.S.-Canada non-scheduled passenger trips are based on overall percentage shares of 10 percent for U.S. citizens and 90 percent for foreign-citizens (which are based on an analysis of the carriers in the U.S.-Canada market and the characteristics of the city pairs served) times the volume of passengers between the United States and Canada from DOT T-100 reports. U.S.-Canada passenger trips are divided into U.S.-arriving and U.S.-departing passenger trips using the overall percentages from INS form I-92 data.

The exact figure for the overall number of passenger trips that the proposed rule would have covered were it in effect for 1994 is 71,502,384 trips (51,955,263 on U.S.-flag carriers, and 19,547,121 on foreign-flag carriers).

For U.S.-citizen trips, the exact figures are: 48,235,870 total trips (28,688,748 on U.S.-flag carriers, and 19,547,122 on foreign-flag carriers); 43,350,555 trips between the United States and all countries except Canada (25,504,509 on U.S.-flag carriers, and 17,846,046 on foreign-flag carriers); and 4,885,315 trips between the United States and Canada (3,184,239 on U.S.-flag carriers, and 1,701,076 on foreign flag carriers). Of the 4,885,315 trips between the United States and Canada, 4,701,099 were on scheduled flights and 184,216 were on non-scheduled flights.

For foreign citizen trips (on U.S.-flag carriers), the exact figures are: 23,266,515 total trips; 19,141,586 trips between the United States and all countries except Canada; and 4,124,929 trips between the United States and Canada. Of the 4,124,929 trips between the United States and Canada, 4,021,722 were on scheduled flights and 103,207 were on non-scheduled flights.

<sup>7</sup> There are 53 U.S. air carriers that hold authority under 49 U.S.C. 41102 for either foreign scheduled or foreign charter passenger service, and an additional 86 U.S. air carriers that, by virtue of holding authority under 49 U.S.C. 41102

carriers that hold passenger authority to operate internationally to and from the United States and Canada.<sup>8</sup> There are 915 charter air taxis that hold passenger authority to operate internationally to and from the United States and Canada. There are two U.S. scheduled air taxis and commuters that hold passenger authority to operate internationally to and from the United States and Mexico. There are 1074 U.S. carriers enumerated here.<sup>9</sup> The proposed rule would apply to U.S. citizens on international flights to and from the United States on such carriers.

The U.S. carriers enumerated above transport the preponderance of all U.S. citizens who travel internationally to and from the United States on U.S. carriers. However, the following U.S. carriers are not required to report their operations to the Department of Transportation and are not counted above: air taxis and commuters operating internationally to and from locations other than Canada and Mexico (primarily internationally to and from the Caribbean -- including carriers based in Puerto Rico -- and internationally to and from Guam); and charter air taxis operating internationally to and from Mexico. When operating internationally to and from the United States, these U.S. carriers would be covered by the proposed rule.

There are currently 224 foreign air carriers that hold Departmental economic authority under 49 U.S.C. 41301 or 40109 to conduct scheduled or charter passenger

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for scheduled domestic passenger service, are also automatically granted worldwide charter passenger authority.

<sup>8</sup> Commuter air carrier means an air taxi operator that carries passengers on at least five round trips per week on at least one route between two or more points according to its published flight schedules that specify the times, days of the week, and places between which those flights are performed.

<sup>9</sup> U.S. carrier counts are current counts, thus they may change.

operations to and from the United States. Included among them are carriers that operate large aircraft; Canadian scheduled air taxis and commuters; and other air taxis and commuters that serve the United States. There are 269 Canadian charter air taxis with passenger authority to serve the United States. The proposed rule would apply to U.S. citizens on international flights to and from the United States performed by all 493 of these foreign air carriers that hold passenger authority to operate to and from the United States.<sup>10</sup>

Some idea of the scope and magnitude of the passenger data collection and storage requirements that would be generated by the proposed rule can be gained from 1994 flight segment and departure data that are available for U.S. and foreign carriers that operate aircraft seating more than 60 passengers.<sup>11</sup> In 1994, 39 U.S. air carriers operated such aircraft over about 2,963 nonstop flight segments internationally to and from the United States. Departures by U.S. carriers over these flight segments totaled 447,362.<sup>12</sup> In 1994, 137 foreign carriers operated such aircraft over 1,875 nonstop flight segments internationally to and from the United States.<sup>13</sup> Departures by foreign carriers over these segments totaled 320,904. The proposed rule would apply to all such departures by U.S. carriers

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<sup>10</sup> As was the case for U.S. carrier counts, these foreign carrier counts are current counts and thus may change.

<sup>11</sup> Scheduled and charter passenger operations are covered. The data are from DOT T-100 reports. The data examined here are for "flight segments internationally to and from the United States," and match exactly the types of flight segments that are covered by the proposed rule.

<sup>12</sup> A departure is recorded each time an aircraft takes off. That is, for the flight segment, New York - London, a departure is recorded each time a flight takes off from either New York or London. The total departure figure given here is for all departures from all origins by U.S. carriers.

<sup>13</sup> See Appendix 2 for a list of the U.S. and foreign carriers that carried passengers on these flight segments in 1994.

and to departures by foreign carriers so long as a U.S. citizen or lawful permanent resident is on board. Thus, were the proposed rule in effect in 1994, the data for as many as 768,266 passenger manifests would have needed to have been collected and stored.<sup>14</sup>

Under the proposed rule, the requisite passenger manifest data for somewhat more than 768,112 passenger manifests could, however, need to be collected and stored annually. This is because first, and primarily, the analysis above is based on data that are two years old and traffic has increased. Second, the analysis above is limited to U.S. and foreign air carriers that operate aircraft seating more than 60 passengers because comparable data for U.S. and foreign air carriers operating smaller aircraft are not available.

#### Extension to Foreign Air Carriers

In considering, as instructed by the Act, whether to extend the passenger manifest requirement to foreign air carriers, the Department weighed the alternatives of:

- (1) covering all international flight segments; (2) covering all flights operating to and from the United States; (3) covering all flights carrying U.S. citizens;
- (4) covering flight segments consisting of one foreign and one U.S. point; and (5) excluding foreign air carriers.

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<sup>14</sup> Regarding the collection and storage of passenger manifest information, to the extent that U.S.-citizen passengers book round-trips and passenger manifest information is collected once by the air carriers and stored for reuse on the return-trip, any burdens of collecting passenger manifest information would decrease. At the same time, any marginal burdens of storing passenger manifest information for a longer time would be borne by the air carriers.

Since almost half of U.S. citizens traveling internationally to and from the United States do so on foreign air carriers (as mentioned above, 40 percent in 1994), not requiring foreign air carriers to comply with a passenger manifest requirement would have the disadvantage that a large portion of U.S. citizens traveling internationally (a primary target of the proposed rule) would, at the outset, not be covered. Thus, the decision among the alternatives centered primarily on adequately covering the types of passengers who might be the focus of inquiries to the Department of State were an aviation disaster to occur on a flight to or from the United States. The Department of State has a responsibility for communicating with the families of U.S.-citizen victims of aviation disasters that occurs outside the United States, regardless of whether the disaster occurs on a U.S. or foreign carrier flight. The Department of State also receives inquiries from foreign governments regarding their citizens who might have been aboard a flight on a U.S. air carrier on a flight to or from the United States that ends in disaster, regardless of whether the disaster occurs within the United States or outside the United States.

Extending the passenger manifest requirement to U.S. citizens on all international flight segments might raise troublesome issues of extraterritorial application of U.S. law for flights originating and terminating at foreign points. In addition, this approach would still not insure total coverage of the target population because, as noted in some comments received in response to the Advance Notice of Proposed Rulemaking (ANPRM), some foreign countries have privacy laws that may prevent the collection of passenger manifest information. In a similar fashion, extending the passenger manifest requirement to U.S. citizens on all flight segments of a single-number flight might raise troublesome issues of extraterritorial application of U.S. law.

Thus, we are proposing to cover those flight segments consisting of one foreign and one U.S. point for both U.S.-flag and foreign-flag air carriers. In this way, nearly one half of the target population of U.S. citizens traveling to and from the United States that does so on foreign-flag air carriers is not omitted at the outset. This approach would allow the Department of State to communicate promptly with the families of U.S.-citizen victims of an aviation disaster that occurs outside the United States on such a flight, regardless of whether the disaster occurs on a U.S. or foreign carrier flight.

#### Performance Versus Design Specification

The proposed rule is structured to give carriers the flexibility to minimize any necessary costs of collecting passenger manifest information. The alternatives were whether to structure the proposed rule as a design specification, where the manner in which carriers would collect, handle, and deliver the required information would be described in detail, or as a performance specification, where the end product would be defined and carriers would have the freedom to develop whatever system best suits their operations as long as it meets the performance specification.

For the vast majority of passengers, ANPRM commenters indicated that they will attempt to collect and store passenger manifest information as part of a computer reservation system (CRS). A design specification would therefore need to deal with the minutiae of how the required data elements should be entered, stored and retrieved in the CRS. While it might be possible to develop an optimum way for handling passenger manifest information in any single CRS, there are, in fact,



several such systems in use by carriers and the systems vary in their level of sophistication. It could thus be extremely difficult to devise a detailed design specification that would treat all CRSs fairly. Furthermore, some (smaller) air carriers and some travel agents may not use CRSs in their operations. Thus, a CRS design specification would not necessarily, by itself, address the operations of all those affected by the proposed rule.

A performance specification, on the other hand, would allow each carrier or carrier agent to devise whatever system is most appropriate and least costly for its operations. In proposing the performance specification form for the proposed rule, we expect that carriers and their agents, and operators of computer reservation systems, will seek to innovate in a manner that minimizes the cost to the carrier, to their (travel) agents that likely will be involved in collecting passenger manifest information, and to the traveling public.

#### Denial of Boarding and Date of Birth Information

As instructed by the Act, we have considered denying boarding to passengers who refuse to provide passenger manifest information. We have tentatively rejected requiring air carriers to deny boarding to passengers who do not provide emergency contact information but we are proposing, for those passengers who are required to present a passport for travel, denying boarding to passengers whose names do not match those on their passport or who fail to provide their passport numbers.

For any passenger who declines to provide information concerning emergency contacts, we are proposing that carriers maintain a record. Such a passenger would be permitted to board his or her flight. By providing emergency contact

information, a passenger may derive some benefit from knowing that, in the event of an aviation disaster, others, who might be concerned about the passenger, would be exposed to lessened pain and suffering. The passenger should not be forced to accept the benefit if it is not wanted.

We are proposing denying boarding to passengers whose names do not match those on their passports or who fail to give their passport numbers, for those passengers who are required to present a passport for travel, because this information is necessary for the Department of State to carry out its responsibilities in notifying the families of victims of aviation disasters that occur outside the United States.

Finally, we are requesting comment on requiring carriers to solicit/collect date of birth (DOB) as part of passenger manifest information, and on whether DOB might be a superior substitute for information already specified in section 203 of P.L. 101-604. Passenger DOB is, we understand, fundamental to carrier participation in the U.S. Customs Service's Advance Passenger Information System (APIS), which has associated passenger facilitation benefits.<sup>15</sup> As an identifier, DOB may be equally as useful as passport number to interested parties. Were DOB to be solicited/collected as an additional item of information to that already specified in section 203 of P.L. 101-604, doing so should be limited to those carriers most likely to participate in the APIS program. We understand from Departmental (Federal Aviation Administration) accident investigators that there is usually

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<sup>15</sup> The APIS program is described in more detail later in this evaluation, in a section titled: "Final Adjustment of the Cost of the Proposed Rule to Account for Air Carrier Participation in the Advance Passenger Information System."

less uncertainty regarding the identity of passengers involved in commuter air carrier and air taxi accidents than in accidents involving large aircraft.<sup>16</sup>

#### Benefits of the Proposed Rule

A first direct benefit of implementing the passenger manifest requirement contained in the proposed rule is a reduction in pain and suffering on the part of families of U.S.-citizen victims of aviation disasters that occur outside the United States on flights to and from the United States. Having complete passenger manifest information on hand -- that is, assuming that passengers choose to provide emergency contact information -- should allow the families of U.S.-citizen victims of an aviation disaster that occurs outside the United States to be notified as rapidly as is possible. The benefit accrues because the families are notified more quickly than would be the case without a passenger manifest requirement, and thus their uncertainty over whether or not a family member or friend was a passenger on an ill-fated flight is, in the immediate aftermath, reduced. This benefit could, moreover, be augmented by the proposal in the NPRM to allow air carriers alternatively to meet statutory requirements by entering into an acceptable Memorandum of Understanding (MOU) with the Department of State. DOT understands that discussions to date regarding such a MOU have included a provision for the exchange of liaison officers between the Department of State and air carriers. Such an exchange could insure that families of victims of aviation disasters that occur outside the United States receive prompt and consistent treatment and information from air carriers and the Department of State. This

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<sup>16</sup> Air taxis and commuter air carriers would be free to -- on their own -- collect date of birth and other required information needed to participate in the APIS program.

first direct benefit, alone or augmented by MOU provisions, while real and palpable, is at the same time of an intangible nature and one cannot attach a dollar value to it.<sup>17</sup>

A second direct benefit of implementing the passenger manifest requirement contained in the NPRM should be a general increase in the response capability of the Department of State regarding its duties to U.S. citizens following an aviation disaster that occurs outside the United States. According to the Report of the President's Commission on Aviation and Security:

Failure to secure the [passenger] manifest quickly had a negative ripple effect on the State Department's image in subsequent activities. Thereafter, the Department appeared to lack control over who should notify next of kin, an accurate list of next of kin, and communications with the families. (p. 101)

The proposed rule insures that the Department of State is given passenger manifest information as rapidly as possible, and thus should prevent such a negative ripple effect from occurring in the future. Again, this benefit could be augmented by the proposal in the NPRM to allow air carriers alternatively to meet statutory requirements by entering into an acceptable MOU with the Department of State. As mentioned above, DOT understands that discussions to date regarding such a MOU have included a provision for the exchange of liaison officers between the Department of State and air carriers. Such an exchange of liaison officers could insure that the range of activities in the aftermath of an aviation disaster that

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<sup>17</sup> As was mentioned in the previous section, during the discussion of not denying boarding to those passengers who refuse to provide emergency contact information, some of this benefit may be shared by the air traveler who provides passenger manifest information to the extent that he or she enjoys some peace of mind from knowing that in doing so, his or her friends and relatives would be subject to lessened pain and suffering should the traveler be involved in an air carrier disaster. Any such shared benefits would be intangible.

occurs outside the United States that involves both the air carrier and the Department of State are better coordinated. This second direct benefit, alone or augmented by MOU provisions, while real and palpable, is intangible and one cannot attach a dollar value to it.

A third direct benefit of implementing the passenger manifest requirement contained in the NPRM should be an increase in the response capability of the Department of State regarding inquiries from foreign governments regarding their citizens in the aftermath of an aviation disaster. DOT was told by Department of State personnel that there were a number of such inquiries in the aftermath of the recent, July 17, 1996, Trans World Airlines (TWA) flight 800 air disaster on Long Island, NY, and, moreover, DOT also received such inquiries directly. Since U.S. air carriers would be required to collect passenger manifest information for both U.S. and foreign-citizen passengers, the Department of State, once in possession of passenger manifest information for a U.S. air carrier flight to or from the United States that ends in disaster (either within or outside the United States), would be better able to respond to inquiries from foreign governments regarding the fates of their citizens.

A class of indirect benefits, outside the immediate scope of the proposed rule, may accrue in the form of a reduction in pain and suffering on the part of families of U.S.-citizen victims of aviation disasters that involve flights to and from the United States, and that occur in the United States. This set of circumstances describes families of U.S. citizens aboard the Trans World Airlines flight 800 aviation disaster. These benefits are outside the immediate scope of the proposed rule because the Department of State has no formal responsibilities if an aviation disaster, even one involving an international flight to or from the

United States, occurs within the United States. Here again, however, having complete passenger manifest information on hand -- again assuming that passengers have chosen to provide emergency contact information -- should enable the air carrier to carry out its own notification of the families of U.S.-citizen passengers as quickly as possible, and more quickly than has been the case in the past, and to also provide others, such as local authorities, with information more quickly.<sup>18</sup>

The Congress has mandated that passenger manifest information be collected for use in overseas (outside the United States) aviation disasters. The statutory mandate eliminates maintaining the status quo as a legal alternative and, as a result, the benefit/cost examination must center on seeking the least costly way to comply with the statutory mandate.

For information purposes, historical accident data are provided in the following two tables. Table 1 portrays, as comprehensively as possible, the recent history -- the last ten years -- of aviation accidents involving large aircraft on the types of flights that the proposed rule would cover. Table 2 portrays, as comprehensively as possible, a nine-year period (1983-91) of aviation accidents involving air taxis and commuters on the types of flights that the proposed rule

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<sup>18</sup> There has been Presidential and Congressional discussion on, among other things: 1) requiring air carriers to make an accurate passenger manifest available soon after the crash of a domestic flight, and 2) setting up a federal authority to act as an advocate of families in the aftermath of aviation disasters, generally. Were legislation to be passed that would extend the type of passenger manifest requirements contained in P.L. 101-604 to U.S. citizens involved in aviation disasters that occur within the United States on flights to and from the United States, then the indirect benefits listed here could become direct benefits.

would cover.<sup>19</sup> In both tables, accidents that occurred either: 1) outside the United States on U.S. or foreign air carrier flights to or from the United States (for which the State Department would be notifying families of U.S.-citizen passenger victims), or 2) within or outside the United States on U.S. air carrier flights to or from the United States (for which the State Department would be notifying the home governments of foreign-citizen passengers) are depicted in bold type. In other words, the accidents that are depicted in bold type are those for which direct notification benefits under the proposed rule would have accrued were the proposed rule in effect.

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<sup>19</sup> The definition of an air carrier accident is an occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, in which:

- a) a person is fatally or seriously injured as a result of:
  - being in the aircraft, or
  - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
  - direct exposure to jet blast;
 except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
- b) the aircraft sustains damage or structural failure which:
  - adversely affects the structural strength, performance or flight characteristics of the aircraft, and
  - would normally require major repair or replacement of the affected component,
 except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tires, brakes, fairings, small dents or puncture holes in the aircraft skin; or
- c) the aircraft is missing or is completely inaccessible.

Table 1                      **Accidents Involving Large Aircraft  
on Flights to and from the United States (July 1986-July 1996)**

Date	Carrier	Number of Passengers	Passenger Fatalities			Departure/ Destination	Accident Location
			Total	U.S.-Cit.	For.-Cit.		
08-31-86	Aeromexico*	58	58	39	19	MEX/LAX	Cerritos, Calif.
02-14-87	<b>Skyworld</b>	94	1	1	0	DEN/PVR	<b>Mexico</b>
09-20-87	<b>Air North</b>	4	4	4	0	YXY/JNU	Alaska
05-09-88	British Airways*	291	0	0	0	LHR/ORD	Chicago, Ill.
05-21-88	<b>American</b>	<b>240</b>	<b>0</b>	<b>0</b>	<b>0</b>	DFW/FRA	<b>Dallas, Tex.</b>
09-29-88	<b>Eastern</b>	<b>122</b>	<b>0</b>	<b>0</b>	<b>0</b>	SJO/MIA	<b>Costa Rica</b>
12-21-88	<b>Pan American</b>	<b>243</b>	<b>243</b>	<b>177</b>	<b>66</b>	LHR/JFK	<b>Scotland, U.K.</b>
02-24-89	<b>United</b>	<b>336</b>	<b>9</b>	<b>6</b>	<b>3</b>	HNL/AKL	Hawaii
01-25-90	Avianca*	149	65	5	60	MDE/JFK	New York
12-20-95	<b>American</b>	<b>164</b>	<b>160</b>	<b>61</b>	<b>99</b>	MIA/CLO	<b>Buga, Colombia</b>
07-17-96	<b>Trans World</b>	<b>230</b>	<b>230</b>	<b>168</b>	<b>62</b>	JFK/CDG	<b>Long Island, NY</b>

Notes:

- 1) Accidents involving large aircraft operating under Parts 121 and 129 of the Federal Aviation Regulations are depicted, cargo flights are excluded. An asterisk (\*) beside an air carrier in the table indicates that the carrier is a foreign-flag air carrier.
- 2) Accidents in **bold type** represent those for which direct notification benefits of the proposed rule could have been expected were the proposed rule in effect: accidents that occurred outside the United States on any air carrier (families of U.S.-citizen passenger victims would have been notified more quickly) or accidents that occurred anywhere -- inside or outside the United States -- on a U.S.-flag air carrier (home governments of foreign-citizen passenger victims would have been notified more quickly).
- 3) As in the proposed rule, passengers include both revenue and non-revenue passengers.
- 4) The U.S.-citizen passenger fatality counts resulted from inquiries directly to air carriers or their agents, the U.S. Department of State, published newspaper accident accounts, or, in the case of Pan Am Flight 103, Appendix A of the Report of the President's Commission on Aviation Security and Terrorism (Washington: 1990).
- 5) While no military accidents were recorded on the types of flights covered by the table during the time period covered by the table, it is noted that military accidents are not applicable to the proposed rule because the military -- not the Department of State -- is responsible for the notification of the families of victims of military aviation disasters.
- 6) Departure/destination codes used are:

AKL: Auckland, New Zealand	CDG: Charles De Gaulle, Paris	CLO: Cali, Colombia
DEN: Denver, Colo.	DFW: Dallas/Ft. Worth, Tex.	FRA: Frankfurt, Germany
HNL: Honolulu, Hawaii	JFK: John F. Kennedy, New York	JNU: Juneau, Alaska
LAX: Los Angeles, Calif.	LHR: Heathrow (London, U.K.)	MDE: Medellin, Colombia
MEX: Mexico City, Mexico	MIA: Miami, Fla.	ORD: O'Hare (Chicago, Ill.)
PVR: Puerto Vallarta, Mexico	SJO: San Jose, Costa Rica	YXY: Whitehorse, Canada

**Source:** Part 121 and 129 accident information was developed by the Federal Aviation Administration (FAA) based on records available to the National Transportation Safety Board (NTSB) and other sources. Coverage of accidents involving U.S. carriers and U.S.-registered aircraft is believed to be 90 percent or more complete, as is coverage of accidents that occurred on nonstop flight segments with a U.S. origination and a foreign destination, and nonstop flight segments with a foreign departure and a U.S. destination. Coverage of accidents on foreign air carrier flights to and from the United States that involved non-U.S.-registered aircraft and occurred over foreign soil is less certain. Such accidents could have been investigated solely by a foreign aviation safety authority and would not necessarily have been reported to the NTSB or the FAA. Overall, it is estimated that the information in Table 1 covers about eighty (80) percent of the accidents involving large aircraft on flights that would be covered by the proposed rule.



Table 2                      **Accidents Involving Air Taxis and Commuters  
on Flights to and from the United States (1983-1991)**

Date	Carrier	No. of Pass	Pass. Fatalities		Departure/Destination (Accident Location)
			U.S.-Cit.	For.-Cit.	
01-17-83	Crown Air	7	0	0	Beef Island, V.I.-U.K./San Juan, P.R. (San Juan)
09-23-85	Gull Air	2	0	0	Freeport, Bah./Ft. Lauderdale, Fla. (Florida)
11-26-85	Chalks Intn'l Airline	10	0	0	Cat Cay, Bah./Miami, Fla. (Cat Cay)
04-25-86	Caribbean Express	5	0	0	Miami, Fla./Treasure Cay, Bah. (Florida)
12-27-86	Pro Air	7	0	0	Ft. Lauderdale, Fla./Treasure Cay, Bah. (Treasure Cay)
01-15-87	H.A.V. Leasing	3	0	0	N.A./Matamoros, Mexico (Texas)
09-02-87	Clint Aero, Inc.	6	0	0	Dominica, W.I./St. Thomas, V.I.-U.S. (St. Thomas)
09-28-87	Caribbean Express	10	0	0	N.A./Ft. Lauderdale, Fla. (Freeport, Bah.)
09-30-87	Exec. Air Charter	6	0	0	St. Thomas, V.I.-U.S./N.A. (Puerto Rico)
10-04-89	Air Calypso	1	0	0	San Juan, P.R./Nevis, W.I. (Nevis)
10-20-89	R.A. Blanco	1	0	0	Ft. Lauderdale, Fla./Andros, Bah. (Andros)
02-09-90	Assoc. Jet Charter	2	0	0	N.A./Manitoba, Canada (S. Dak.)
03-08-90	Intn'l Helicopters	2	2	0	Fisher Island, Fla./Cat Cay, Bah. (Florida)
10-02-90	Flightcraft	2	0	0	Tofino, Canada/Seattle, Wash. (Washington)
12-17-90	Coastal Air	3	0	0	St. Croix, V.I.-U.S./Nevis, W.I. (Nevis)
12-28-90	Twin Town Leasing	9	0	0	Ft. Lauderdale, Fla./Eleuthera, Bah. (Eleuthera)
03-18-91	Aero Coach	4	2	2	Ft. Lauderdale, Fla./Treasure Cay, Bah. (Treasure Cay)
08-04-91	Palm Beach Aviat.	3	0	0	Walker Cay, Bah./W. Palm Beach, Fla. (Atlantic Ocean)
08-30-91	Airways Intern'l	6	0	0	W. Palm Beach, Fla./Andros, Bah. (Andros)

Notes:

- 1) Accidents involving air taxis and commuters operating under Part 135 of the Federal Aviation Regulations are depicted, cargo flights are excluded. All carriers are believed to be U.S. air carriers.
- 2) Accidents in **bold type** represent those for which direct notification benefits of the proposed rule could have been expected were the proposed rule in effect: accidents that occurred outside the United States on any air carrier (families of U.S.-citizen passenger victims would have been notified more quickly) or accidents that occurred anywhere -- inside or outside the United States -- on a U.S.-flag air carrier (home governments of foreign-citizen passenger victims would have been notified more quickly).
- 3) The U.S.-citizen passenger fatality counts resulted from inquiries directly to the carriers or their agents.
- 4) Departure/Destination/Accident Location abbreviations used are:  
V.I.-U.K. -- the British Virgin Islands (e.g., Beef Island).  
Bah. ----- the Commonwealth of the Bahamas (e.g., Freeport, Cat Cay, Treasure Cay, Andros, Eleuthera, and Walker Cay).  
W.I. ----- the West Indies (e.g., Dominica and Nevis [St. Christopher-Nevis] are independent states located in the West Indies).  
V.I.-U.S. -- the U.S. Virgin Islands (e.g., St. Thomas and St. Croix).  
N.A. ----- the information is not available.

**Source:** Part 135 accident information was developed by the Federal Aviation Administration (FAA) based on records available to the National Transportation Safety Board (NTSB) and other sources. Coverage of accidents involving U.S. carriers and U.S.-registered aircraft is believed to be 90 percent or more complete. Coverage of accidents on foreign air carrier flights to and from the United States is less certain. Such accidents could have been investigated solely by a foreign aviation safety authority and would not necessarily have been reported to the NTSB or the FAA. Overall, it is estimated that the information in Table 2 covers about sixty (60) percent of the accidents involving air taxis and commuters on flights that would be covered by the proposed rule.

### Calculation of the Recurring Costs of the Proposed Rule

The NPRM would impose a passenger manifest information requirement for covered passengers on air carrier flights to and from the United States. This requirement is likely to result in increased costs for air carriers (to solicit, collect, and process passenger manifest information); travel agents (to solicit, collect, and process passenger manifest information while acting in their role as agents of the air carriers); and passengers (as a result of the additional time they spend while being asked for and providing passenger manifest information).<sup>20</sup> These costs will be of two types, one-time and recurring.

This section addresses the increased annual recurring costs of imposing a passenger manifest requirement and provides rough estimates of these costs based on ANPRM comments and other information. These estimates include adjustments to account for the fact that, in 1994, about 38 percent of total trips by passengers that would be covered by the proposed rule (i.e., U.S. citizens on all air carriers and foreign citizens on U.S. carriers only) between the United States and foreign countries were to countries that do not require a U.S. passport for travel to them.<sup>21</sup> One-time costs

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<sup>20</sup> In its ANPRM comments, British Airways pointed out that soliciting and recording passenger manifest information will entail a significant increase in carrier ticket agent and outside travel agent time.

<sup>21</sup> The exact figure is 37.66 percent. It is derived from the following list of countries that do not require a U.S. passport for travel to them, and the number of covered passenger trips in 1994 associated with these countries. The list is based on: foreign country entry requirements listed in Foreign Entry Requirements (U.S. Department of State, Bureau of Consular Affairs, Department of State Publication 10331, Rev. March 1996); INS form I-92 reports; and previous estimates of the number of trips between the United States and Canada in 1994 (see footnote 6 above). (Note: country listings follow conventions found in INS form I-92 reports.)

are then addressed in the following section, as are total costs. No attempt will be made in either section to determine the incidence of the increased costs associated with the proposed rule, that is, which parties will eventually end up paying for the increased costs.

Before estimating the recurring costs, the dynamics of imposing a passenger manifest requirement for larger carriers, which use computer reservations systems and transport most passengers who travel internationally to and from the United States, will be briefly examined. In their ANPRM comments, these carriers generally believed that gathering passenger information when reserving a seat is less likely to result in subsequent flight delays than would gathering it at check-in. Gathering this information at the time of reservation also reduces the need for air carriers to expand airport check-in counter space, which may not be possible at all locations. Any individual carrier will thus have the incentive to reduce possible airport delays by encouraging, to the extent possible, covered travelers to provide passenger manifest information at the time of reservation or sometime before arriving at the

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<b>Caribbean:</b>	<b>9,343,240</b>	<b>Mexico:</b>	<b>8,442,153</b>
Anguilla Island (Br. W.Ind.)	49,146		
Antigua/Barbuda	279,008	<b>Canada (DOT estimate):</b>	<b>9,010,243</b>
Aruba	650,758		
Bahama Islands	2,230,079	<b>Oceania:</b>	<b>129,346</b>
Bermuda	687,055	Marshall Islands (includes Palau)	18,972
Dominica	2,602	Micronesia	110,374
Dominican Republic	1,911,864		
Grand Cayman	482,239	<b>South America:</b>	<b>76</b>
Grenada/S. Grenadines	76,747	French Guiana	76
Guadeloupe (Fr. W.Ind.)	50,400		
Jamaica	1,602,773		
Martinique (Fr. W.Ind.)	52,871		
Montserrat Island (Br. W.Ind.)	307		
Netherlands Antilles	694,269		
Saint Kitts/Nevis	94,045	<b>Grand Total</b>	<b>26,925,058</b>
Saint Lucia	172,014		
Saint Vincent	54		
Turks/Caicos (Br. W.Ind.)	112,265		
Virgin Islands - U.K.	193,944		

airport. Competition among air carriers should have the same effect since the consequence to any individual air carrier of not securing passenger manifest information before check-in should be longer queues at its airport check-in terminals and the possible loss of business to competitors. Moreover, we believe that passengers will also rather quickly realize that they can avoid subsequent check-in delays by providing passenger manifest information at the time of reservation. With such incentives present on both sides of the transaction, delays at the airport due to passenger manifest information collection should be driven downward over time toward some minimum level.<sup>22</sup>

The following types of air carrier costs of implementing a passenger manifest requirement were identified in ANPRM comments: (1) one-time cost of reprogramming the air carrier's Computer Reservation System (CRS) and Departure Control System (DCS); (2) one-time cost of developing intercarrier information exchange procedures; (3) recurring costs of augmenting reservations operations to handle passenger manifest information -- primarily additional reservations personnel costs, also facilities/equipment costs; (4) recurring costs of augmenting check-in operations to handle passenger manifest information -- primarily check-in personnel costs, also facilities (additional counter space)/equipment costs; (5) training costs for CRS, carrier reservation and check-in, and travel agency personnel.

British Airways (BA) was the only air carrier that provided specific cost estimates, at some level of detail, in its ANPRM comments. They, in 1990 dollars, were:

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<sup>22</sup> It is recognized that it is possible that fast techniques (i.e., scanning) for gathering machine-readable travel document (i.e., passport) information at airports could eventually be demonstrated to be superior for gathering passenger manifest information. But even if this were to be shown to be the case, there could continue to be a need to make every attempt to collect non-machine-readable passenger emergency contact information before the passenger arrives at the airport.

\$100,000.00 one-time cost to modify BA's DCS

\$1,000,000.00 one-time cost to modify BA's CRS and  
BA's interface with other CRSs

\$500,000.00 annual costs of additional BA reservations  
and check-in personnel in the U.S. and U.K.

Thus, BA listed costs in all the major categories identified above, except for training costs. BA stated that without knowing the precise form of the rule, precise estimates were not possible, and that their estimates represent minimum cost figures for implementing any passenger manifest requirement.<sup>23</sup> In particular, BA noted that the \$500,000.00 per year annual recurring cost for additional reservations and check-in personnel in United States and the United Kingdom was conservative. BA stated that the costs apply to the situation in which a passenger manifest information requirement is imposed -- as in the NPRM -- on flights to and from the United States and not foreign-to-foreign points.<sup>24</sup>

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<sup>23</sup> British Airway's ANPRM comments state that its cost estimates represent the minimum costs that would be needed to implement any passenger manifest requirement, and, depending on how a final rule is structured, the cost estimates could be significantly understated. The proposed rule is limited to the collection of passenger manifest information for U.S.-citizen passengers on BA flight segments between gateways, which would seem to adhere to one of the least burdensome methods of collecting passenger manifest information contemplated by BA in its ANPRM comments. For example, BA refers to the difficulties that would be encountered in collecting passenger manifest information from non-English-speaking passengers were all passengers covered by a proposed rule, but the proposed rule that is evaluated here would be limited to U.S.-citizen passengers on BA flights to and from the United States.

<sup>24</sup> As stated, BA's estimates of the increased costs for reservations and check-in personnel that would be necessitated by a passenger manifest information requirement are for such personnel in the United States and the United Kingdom. Preliminary checking indicates that BA flights in 1990 to and from the United States did not contain points beyond the United Kingdom, and thus these estimates should correspond to the NPRM, which covers gateway-to-gateway flight segments.

In its ANPRM comments, British Airways also stated that under optimal conditions, passenger manifest information would be given at the time of reservation. Based on prior experience, however, BA did not believe that optimal conditions would hold (e.g., BA has found that passengers do not now usually bring their passports with them when booking reservations). Thus it believed that some or all of the required passenger manifest information would need to be obtained during check-in, and that this would increase the required check-in time for flights to and from the United States. It estimated that an additional 40 seconds per passenger processing time would be required at check-in to collect passenger manifest information for passengers who fail to provide this information at the time of reservation. It used examples of one-half of all passengers and all passengers on one of BA's typical aircraft loads of 360 passengers arriving at the airport with passenger manifest information missing or incomplete. It said that these examples would result in 2-4 man-hours of additional processing time to provide passenger manifest information at check-in, and 40-80 minutes of additional flight delay with 3 ticket agents. BA stated that this estimate did not include any additional delays attributable to the need for its check-in personnel to verify passenger manifest information which might have been recorded earlier.

The Department of Transportation has no way of directly determining the annual recurring costs to air carriers or others of complying with the passenger manifest information requirements proposed in this NPRM. BA's cost figures for gathering passenger manifest information and its calculation of the time needed to do so at check-in, once adjusted to the proposed rule, may, however, be used together with reasonable assumptions, information from other ANPRM comments, and other generally available information, to roughly estimate these costs.

The proposed rule (as does 49 U.S.C. 44909) lists four pieces of passenger manifest information that will need to be collected from U.S.-citizens traveling between the United States and countries that require a U.S. passport. They are: passenger's full name, passport number and issuing country, contact name, and contact telephone number.<sup>25</sup> We assume that BA's original estimate of 40 seconds applies to the collection of these four pieces of passenger manifest information at check-in. Three pieces of passenger manifest information will need to be collected from U.S.-citizens traveling between the United States and countries that do not require a U.S. passport (again, as in 49 U.S.C. 44909): passenger's full name, contact name, and contact telephone number. BA's original estimate of 40 seconds will be adjusted downward to 30 seconds (i.e., 10 seconds per piece of information) in this case.<sup>26</sup>

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<sup>25</sup> The issuing country of the passport has been added in the proposed rule to augment the passport number alone because U.S. air carriers are required by the proposed rule to collect passenger manifest information from all (U.S.-citizen and non-U.S.-citizen) passengers. Without the passport number, confusion could arise in the aftermath of an aviation disaster because there could be duplicate passport numbers from different countries. In the remainder of this regulatory evaluation, passport number may be used to refer to passport number alone or to both passport number and issuing country code together (the usage should be clear from the context).

<sup>26</sup> An assumption is being made here that the 40 additional seconds overall that BA says in its ANPRM comments would be necessary to collect the additional passenger manifest information at check-in can be broken down into 10 seconds apiece for each of the four pieces (full name, passport number, contact name, and contact telephone number) of passenger manifest information needed for countries that require a U.S. passport. (That it would take 30 additional seconds to collect the three additional pieces of information needed for countries that do not require a U.S. passport flows directly from this assumption.) Allocating the overall additional seconds in this fashion is a simplification that is being done for analytical and expositional convenience. While some of the four pieces of information may take little or no more time to solicit/collect than is the case today (e.g., full name may be asked for today even though, as we understand is the case, air carriers usually only record passenger surnames and first initials when booking a reservation), others, such as passport number and issuing county, may take the full ten seconds, or more, to solicit and collect. It is important to keep in mind that: 1) the overall additional number of seconds is more important than the constituent parts, and 2) solicitation of the additional passenger manifest information takes place within the confines of an existing conversation, which may already be prone to random stops and starts. For more on this see the last section of this regulatory evaluation:

At the time of reservation, passenger manifest information will be either successfully solicited (solicited and collected), or unsuccessfully solicited (solicited and not collected) by BA ticket agents. At the time of check-in, passenger manifest information will be solicited and collected by BA from those passengers who failed to provide it at the time of reservation. It will be assumed that it takes BA ticket agents 40 seconds to solicit and collect passenger manifest information from passengers traveling between the United States and countries that require a U.S. passport, and 30 seconds to solicit and collect passenger manifest information from passengers traveling between the United States and countries that do not require a U.S. passport (i.e., the same amount of time that BA stated in ANPRM comments that it would take to gather passenger manifest information at check-in). The time needed to unsuccessfully solicit (solicit and not collect) passenger manifest information (which occurs only at the time of reservation) is estimated to be eight seconds for passport countries, and six seconds for non-passport countries, or one-fifth of the time both to solicit and collect the information.

As noted above, BA gives scenarios of one-half of all passengers, and all passengers arriving at check-in without having previously supplied passenger manifest information. It will be assumed for estimation purposes that one-half of BA's U.S.-citizen passengers arrive at the airport without having given passenger manifest information, and thus must supply the information at check-in. (To assume that all passengers arrive at check-in without having provided the information would mean that no passenger manifest information was given at the time of reservation.)

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"Sensitivity of the Estimates of the Costs of the Proposed Rule to Variations in the Amount of Time Needed to Solicit and Collect Passenger Manifest Information."



Since BA passengers arriving at check-in without having previously supplied passenger manifest information are made up of passengers from whom passenger manifest information was solicited but not successfully collected at time of reservation by outside travel agents, as well as by BA ticket agents, the costs of outside travel agents who reserve BA passengers must also be taken into account. This is done by assuming that outside travel agents and BA's reservation personnel both successfully solicit passenger manifest information from the same proportion of passengers that contact them, and also that the costs of both groups of reservation personnel are the same. In allocating costs, the fact that, in the United States, industry-wide about 75 percent of all international journeys are booked through outside travel agents, will be assumed to hold for BA as well.<sup>27</sup>

A numerical example using these assumptions may illustrate and help clarify the process that is being described. Assume for illustration purposes that all passengers on a BA aircraft load of 360 passengers are U.S. citizens, and are traveling between the United States and London and thus must provide four pieces of passenger manifest information. Of the 360 passengers, 90 (25 percent) could be expected to make their reservations on BA directly through BA ticket agents, and 270 (75 percent) could be expected to make their reservations on BA through outside travel agents. For one-half of the passengers BA reserves, or 45 passengers, BA ticket agents would expend 40 seconds per passenger to successfully solicit (solicit and collect) passenger manifest information. For the other one-half (45) of the passengers that it reserves, BA ticket agents would expend 8 seconds per passenger to unsuccessfully solicit (solicit but not collect) passenger manifest information. These latter 45 passengers would then show up at BA check-in without having

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<sup>27</sup> See the ANPRM comments of the American Society of Travel Agents, the Air Transport Association of America, and the Regional Airline Association.

previously supplied passenger manifest information and it would require 40 seconds per passenger for BA to collect passenger manifest information from them.<sup>28</sup>

Similar conditions would apply for outside travel agents that reserve BA passengers for this aircraft. For one-half of the BA passengers that they reserve, or 135 BA passengers, outside travel agents would expend 40 seconds per passenger to solicit and collect passenger manifest information. For the other one-half (135) of the BA passengers that they reserve, outside travel agents would expend 8 seconds per passenger to solicit passenger manifest information. These latter 135 passengers would then show up at BA check-in without having previously supplied passenger manifest information, and it would require 40 seconds per passenger for BA to collect passenger manifest information from them. Consistent with the BA scenario that is being used, overall a total of one-half of all passengers, or 180 passengers, arrive at BA check-in without having previously supplied passenger manifest information at the time of reservation.

The assumptions used in this 360-passenger aircraft example flying between the United States and a country that requires a U.S. passport result in BA incurring about 59 percent of the total costs of collecting passenger manifest information, and outside travel agents that reserve BA passengers incurring about 41 percent of these costs.<sup>29</sup>

<sup>28</sup> It is recognized that if passengers call to confirm reservations with air carriers, another opportunity could be provided for the solicitation/collection of any needed passenger manifest information. This time should just substitute for solicitation/collection time that is built into the model and thus is implicitly taken into account in the model.

<sup>29</sup> The exact percentages are 59.09 for BA, and 40.91 for BA's outside travel agents. The total time expended by 1) BA ticket agents and check-in personnel, and 2) outside travel agents to collect passenger manifest information for the 360-passenger aircraft example (where all passengers are assumed to be U.S. citizens traveling to destinations that require a U.S. passport) may more easily demonstrate the allocation that is being made:

These percentage allocations between BA and outside travel agents will hold generally. They will hold, for example, for flights between the United States and countries that do not require a U.S. passport.

We estimate that out of total of about 1.8 million U.S.-citizen trips between the United States and foreign countries on BA in 1990, there were about 4,000 U.S.-citizen trips on BA between the United States and Canada, and that these comprised all of the U.S.-citizen trips on BA between the United States and countries that do not require a U.S. passport.<sup>30</sup> Therefore, we assume that the BA estimates of annual recurring costs of a passenger manifest information requirement are for the solicitation/collection of three pieces of passenger manifest information from about 4000 U.S.-citizen passenger trips, and the solicitation/collection of four pieces of passenger manifest information from the remainder of their U.S.-citizen trips. Based on the model just outlined, these solicitations/collections of passenger manifest information would have consumed about 13,300 hours of BA reservation and check-in personnel time.<sup>31</sup> And, based on BA estimates of \$500,000.00 for additional reservations and check-in personnel to gather passenger manifest information in 1990,

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<u>British Airways (BA)</u>	<u>BAs Outside Travel Agents</u>
Reservation:	Reservation:
45 pax x 40 sec. = 1800 sec.	135 pax x 40 sec. = 5400 sec.
45 pax x 8 sec. = 360 sec.	135 pax x 8 sec. = 1080 sec.
Check-In:	
180 pax x 40 sec. = 7200 sec.	
Total:	
<u>9360 sec.</u>	<u>6480 sec.</u>
(59.1%)	(40.9%)

<sup>30</sup> The exact figures are 1,843,175 total U.S.-citizen trips in 1990 on BA between the United States and foreign countries: 4,147 U.S.-citizen trips between the United States and one no-passport county, Canada; and 1,839,028 U.S.-citizen trips between the United States and passport countries. (As in footnote 6 above, U.S.-citizen travel on BA between the United States and Canada has been estimated by DOT.)

<sup>31</sup> The exact figure is 13,304.33 hours.

this works out to be about \$37.58 per hour of BA time spent collecting passenger manifest information.<sup>32</sup> The corresponding costs of BA's outside travel agents would have been about \$346,000, which represents about 9,200 hours of outside travel agent solicitation/collection time.<sup>33</sup> Thus, were the proposed rule in effect in 1990, the total additional costs to BA and its outside travel agents would have been about \$846,000.<sup>34</sup>

The BA estimates above are in 1990 dollars. With appropriate adjustments, the same methodology can be used, however, to derive the 1994 dollar cost of the passenger manifest information requirement contained in the NPRM. This cost can be broken out for the air carrier industry as a whole, and the travel agent industry as a whole.

As stated earlier, were the proposed rule in effect in 1994, it would have covered about 71.5 million (one-way) passenger trips.<sup>35</sup> Of these trips, those by U.S.-citizen between the United States and foreign countries (on U.S.-flag and foreign-flag airlines) numbered about 48.2 million, about 29 million to countries that require a U.S. passport and about 19.2 million to countries that do not require a U.S. passport.<sup>36</sup> Of the 71.5 million total trips that would have been covered by the rule

<sup>32</sup> The exact figure is \$37.5817464 per hour of time spent by BA to collect passenger manifest information. Based on a 2080-hour work year, this implies costs to BA of about \$78,000.00 per year of reservations/check-in personnel time spent collecting passenger manifest information (the exact figure is \$78,170.03). These amounts are in 1990 dollars.

<sup>33</sup> The exact cost figure is \$346,153.86, and the exact amount of time spent is 9,210.69 hours.

<sup>34</sup> The exact figure is \$846,153.86.

<sup>35</sup> The exact figure is 71,502,384.

<sup>36</sup> The exact figures are 28,969,071 U.S.-citizen trips: 19,266,798 to countries that require a U.S. passport, and 9,702,273 to countries that do not require a U.S. passport.

in 1994, those by foreign citizens (on U.S.-flag air carriers) numbered about 23.3 million, about 15.6 million to countries that require a U.S. passport, and about 7.7 million were to countries that do not require a U.S. passport.<sup>37</sup> The total 71.5 million total trips that would have been covered were the proposed rule in effect in 1994 thus breaks out into about 44.6 million trips to countries requiring U.S. passports and 26.9 million trips to countries that do not require U.S. passports.<sup>38</sup>

The corresponding costs, were the proposed rule in effect in 1994, to air carriers would have been about \$21 million (which represents about 477,000 hours of additional air carrier solicitation/collection time), and the cost to travel agents would have been about \$14.3 million (which represents about 324,000 hours of additional solicitation/collection time).<sup>39</sup> The cost to air carriers may be further broken out into the cost to U.S. air carriers, about \$14.8 million (which represents about

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<sup>37</sup> The exact figures are 23,266,515 million alien trips on U.S. air carriers: 15,608,255 to countries that require a U.S. passport, and 7,658,260 to countries that do not require a U.S. passport.

<sup>38</sup> The exact figures are 44,577,326 million trips to countries that require a U.S. passport and 26,925,058 trips to countries that do not require a U.S. passport. (See footnote 21 for detail on these latter trips.)

<sup>39</sup> The exact figures are: air carriers \$20,588,032.59 (based on an additional 467,791.42 hours of solicitation/collection time); and travel agents \$14,253,253.33 (based on an additional 323,855.60 hours of solicitation/collection time).

A simple way to derive these costs is to note that, based on the numerical example given for BA, on average across air carriers and their travel agents it takes 44 seconds to collect passenger manifest information for a NPRM-covered trip between the United States and a country that requires a U.S. passport, and 33 seconds to collect passenger manifest information for a similar trip between the United States and a country that does not require a U.S. passport. Thus, total costs of \$34,841,285.65 result from the following calculations: 1) 26,925,058 trips to no passport countries at 33 seconds per trip + 44,577,326 trips to passport countries at 44 seconds per trip = 791,647.01 hours; and 2) the result of the calculation in 1 times the \$37.5817446 1990 hourly cost figure of BA updated to 1994, which is \$44.0111378 yields the total cost figure of \$34,841,285.65 which may then be allocated between air carriers and travel agents based on the percentage allocations given in the BA numerical example above.

337,000 additional hours of solicitation/collection time), and the cost to foreign air carriers, about \$5.7 million (which represents about 130,000 hours of additional solicitation/collection time).<sup>40</sup>

The value of the time that passengers would have forgone while being asked for and providing passenger manifest information were the proposed rule in effect in 1994 may be derived from: the number of covered passenger trips in 1994 between the United States and foreign countries that do and do not require U.S. passports for travel; estimates of air carrier and outside travel agent time needed to successfully solicit (i.e., 40 seconds for those countries that require U.S. passports, and 30 seconds for those that do not), and unsuccessfully solicit (i.e., 8 seconds for those countries that require U.S. passports, and 6 seconds for those that do not) passenger manifest information; an assumption on whether passenger manifest information is collected once or twice per round-trip; and a monetary amount representing the value of an hour of time to an international air carrier passenger. Since the calculation depends on

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<sup>40</sup> The exact figures are U.S. carriers, \$14,848,847.31 (based on an additional 337,388.4 hours of solicitation/collection time), and foreign carriers, \$5,739,185.28 (based on an additional 130,403.02 hours of solicitation/collection time).

The associated percentage breakouts of total air carrier costs are: U.S. carriers, 72.1 percent, and foreign carriers, 27.9 percent. While these percentage breakouts between U.S. and foreign carriers will hold for the outside travel agents for each group of carriers as well, splitting total travel agent costs in this fashion seems far less meaningful, and is not done in the main body of the text or here, because the same travel agent -- U.S. or foreign -- could book reservations for both U.S. and foreign carriers.

(Note: U.S. and foreign air carrier percentages of total costs of a passenger manifest requirement given above differ slightly from U.S. and foreign air carrier percentages of total covered passenger trips between the United States and foreign countries [72.7 and 27.3 percent, respectively] because of the somewhat higher proportion of trips between the United States and countries that require passports, and thus entail somewhat higher costs per passenger, that occurred on foreign air carriers -- 13,765,380 out of a total of 19,547,121 or 70.4 percent -- than occurred on U.S. air carriers -- 30,995,478 out of total of 51,955,263 or 59.7 percent.)

whether passenger manifest information is collected once or twice per journey, a range of values will be calculated.

If it is assumed that all trips are round-trips and that passenger manifest information is collected by air carriers at the beginning of each round-trip, and stored for use during the return trip, then the number of NPRM-covered trips (U.S.-citizen passenger on all carriers and foreign-citizen trips on U.S. carriers) in 1994, about 71.5 million, is equal to twice the number of passenger manifest information collections, or about 35.8 million collections. Of these 35.8 million collections, about 22.3 million would have taken place on trips between the United States and foreign countries that require a U.S. passport for travel, and these collections would have required passengers to forego 40 seconds. About 13.5 million collections would have taken place on trips between the United States and foreign countries that do not require a U.S. passport for travel, and would have required passengers to forego 30 seconds per collection.<sup>41</sup> Taken together, these collections represent about 360,000 hours of passenger time forgone.<sup>42</sup>

To this must be added the passenger time forgone by covered passengers who are asked for passenger manifest information at the time of reservation, but who do not provide it at that time. As noted earlier, such unsuccessful solicitations of passenger manifest information would consume 8 seconds of passenger time on trips between the United States and countries that require a U.S. passport, and 6 seconds of passenger time on trips between the United States and countries that do not require a U.S.

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<sup>41</sup> The exact figures are 35,751,192 total collections: 22,288,663 from U.S.-citizen passengers traveling between the United States and countries that require a U.S. passport; and 13,462,529 from U.S.-citizen passengers traveling between the United States and countries that do not require a U.S. passport.

<sup>42</sup> The exact figure is 359,839.55 hours.

passport. Using the above assumptions, such unsuccessful solicitations would occur for one-half of each category of passengers, or about 11.1 million passengers traveling between the United States and countries that require a U.S. passport, and about 6.7 million passengers traveling between the United States and countries that do not require a U.S. passport.<sup>43</sup> Taken together, these solicitations represent about 36,000 hours of passenger time forgone.<sup>44</sup>

The total passenger time forgone for the case in which passenger manifest information is collected once per round trip is thus about 396,000 hours.<sup>45</sup> This time will be valued at \$48.00 per hour, the value of an hour in 1994 to air carrier international passengers on business trips.<sup>46</sup> For this case, the value of passenger time that would

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<sup>43</sup> The exact figures are 11,144,331 (passport), and 6,731,265 (no passport).

<sup>44</sup> The exact figure is 35,983.96 hours.

<sup>45</sup> The exact figure is 395,823.51 hours.

<sup>46</sup> The value of time for air carrier international passengers on business trips is used here to calculate the value of time that would have been forgone by all U.S.-citizen passengers while they were being asked for and providing passenger manifest information were the proposed rule in effect in 1994. A base (1987 dollar) value of \$37.22 per hour for air carrier international passengers on business trips is taken from Table 2 (page 11) of: U.S. Department of Transportation, Federal Aviation Administration, Economic Values for Evaluation of Federal Aviation Administration Investment and Regulatory Programs (FAA-APO-89-10) (Washington: 1989). This publication is available to the public from the National Technical Information Service, Springfield, VA, 22161.

The base value is updated to 1994 dollars using the Gross Domestic Product (GDP) implicit price deflator for total personal consumption expenditures, together with rounding of the result to the nearest 50 cents. This adjustment methodology is suggested in the publication (p. 122), except that here the GDP implicit price deflator for total personal consumption expenditures is used in lieu of its Gross National Product (GNP) counterpart. The substitution is defensible on theoretical grounds, and, moreover, national product account information is now published in terms of GDP. The 1994 GDP implicit price deflator for total personal consumption expenditures [1987=100.0] from the Survey of Current Business is 129.3 and the calculation of the updated value is  $\$37.22 \times (129.3/100.0) = \$48.12$ , which is rounded to \$48.00 per hour.

The choice of the value of time for international passengers on business trips yields a reasonable estimate of the value of time forgone for all passengers who would have



have been forgone -- while being asked for and providing passenger manifest information -- had the proposed rule been in effect in 1994 is about \$19 million.<sup>47</sup>

If, on the other hand, it is assumed that all trips are one-way trips, or that air carriers would collect passenger manifest information at both ends of a round-trip rather than collecting the information once and storing it for use on the return-trip, then the number of NPRM-covered international trips in 1990, about 71.5 million, is equal to the number of passenger manifest information collections. Of these trips, about 44.6 million were between the United States and countries that require a U.S. passport for travel, and about 26.9 million were between the United States and countries that do not require a U.S. passport for travel.<sup>48</sup> Similar calculations to those above for this case result in a total of about 792,000

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provided passenger manifest information. The resulting estimate is relatively conservative when compared to the estimate that would result from using the value for international passengers on non-business trips, which is \$72.00 per hour (in 1994 dollars), or the value for international passengers on business and non-business trips, which is \$65.00 per hour (in 1994 dollars). (These latter values are also taken from Table 2 of the publication listed above, and have been updated to 1994 dollars using the same adjustment methodology that was used above.)

Using the value of time for international passengers on business trips, together with the statement that doing so yields a reasonable estimate, avoids the need to explore further here the issue of whether the values for trips for various purposes might need to be adjusted to account for the average size of traveling party. For international business trips, it can be argued that such adjustment, if needed at all, is likely to be minor.

<sup>47</sup> The exact figure is \$18,999,528.39.

<sup>48</sup> The exact figures are 71,502,384 total collections: 44,577,326 from passengers traveling between the United States and countries that require a U.S. passport, and 26,925,058 from passengers traveling between the United States and countries that do not require a U.S. passport. This results in a total time of 719,679.11 hours for collections. For solicitations only, the exact figures are 22,288,663 (passport), and 13,462,529 (no passport). This results in a total time of 71,967.91 for solicitations.

passenger hours forgone.<sup>49</sup> The value of this time at \$48.00 per hour is about \$38 million.<sup>50</sup>

Based on the above, the total annual recurring costs (in 1994 dollars) of the passenger manifest requirement in the proposed rule are roughly estimated to range between about \$53.8 and 72.8 million.<sup>51</sup> The range of estimates results from assumptions made concerning the mix of one-way and round-trips, and whether air carriers would collect and store passenger manifest information for round-trips or collect the information for each leg of round-trips. The estimated total annual recurring costs of the proposed rule break out as follows: air carriers (\$20.6 million); travel agents (\$14.3 million); and passengers' time forgone (\$19.0 to \$38.0 million). As was done before, annual recurring costs for air carriers may be further broken down into: U.S. air carriers (\$14.8 million) and foreign air carriers (\$5.7 million).<sup>52</sup>

These estimates of the total annual recurring costs of the proposed rule do not include any time costs to passengers beyond what is required by passengers covered by the proposed rule to be asked for and provide passenger manifest information at the time of reservation or airport check-in. Passengers covered by the proposed rule, and perhaps other passengers, could experience additional time costs at the airport

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<sup>49</sup> The exact figure is 791,647.02 hours.

<sup>50</sup> The exact figure is \$37,999,056.77.

<sup>51</sup> The exact figures are \$53,840,814.31 and \$72,840,342.69.

<sup>52</sup> For consolidated reference -- the exact figures are given in previous footnotes -- the exact figures are: air carriers (\$20,588,032.59); travel agents (\$14,253,253.33); and passengers' time forgone (\$18,999,528.39 [1 collection per round trip] to \$37,999,056.77 [2 collections per round trip]). The exact figures for U.S. and foreign air carriers are: U.S. air carriers (\$14,848,847.31) and foreign air carriers (\$5,739,185.28).

to the extent that passenger manifest information requirements result in passengers covered by the proposed rule or (less likely) all passengers being required to report to the airport earlier than is the case without a passenger manifest information requirement. All passengers could experience additional time costs at the airport to the extent that flights are delayed as a result of the NPRM passenger manifest information requirements.

No such additional (airport-delay) time costs are included because, as the discussion at the beginning of this section indicated, there would be incentives on the part of passengers and air carriers to avoid such additional time spent at the airport. Moreover, while the estimated costs in this section are based on assumptions of one-half of all covered passengers arriving at the airport without having given passenger manifest information at the time of reservation, some ANPRM commenters indicated that most passengers could be expected to give passenger manifest information at the time of reservation, thus making less likely any additional time costs at the airport. Furthermore, it may be that: 1) there are already some unavoidable delays to passengers at airports and passenger manifest information collection might be structured to occupy this already available time (such time may increase, at least at U.S. airports, as a result of the recent tightening of airport security in the wake of the TWA 800 air disaster); and/or 2) current airport check-in procedures are not substantially different from what might be needed under the proposed rule.<sup>53</sup> In both

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<sup>53</sup> Air carriers that use smaller aircraft, and whose smaller passenger loads would be less likely to cause congestion at the airport, would seem to be most able to take advantage of lower tech or manual methods of collecting passenger manifest information that might take place at the airport. Doing so could result in small costs to the carriers and virtually no time forgone on the part of the passengers from whom the information was collected, if the collection was structured to occupy already available time. (One such method is mentioned in the Report of the President's Commission on Aviation Security and Terrorism [endnote 55, p.109]. It was suggested by Pan American Flight 103 family member, Mrs. Georgia Nucci, and would require passengers to submit passenger manifest information on a portion of the boarding pass that is collected by air carriers prior to boarding.)

of these cases, the calculation of additional passenger time forgone or increased air carrier processing costs is not necessary.<sup>54</sup> Finally, no additional time costs at the airport are included because the added air carrier industry and travel industry costs estimated above, and occasioned by implementing a passenger manifest requirement, ostensibly are incurred for additional reservations and check-in personnel in order that current reservations times, check-in times, and flight schedules can be maintained.

Calculation of the One-Time Cost, Total Costs, and Present Value of the Future Cost Stream of the Proposed Rule

Based on British Airways' estimates of its one-time cost to implement a passenger manifest requirement, an estimate of the one-time cost for the air carrier industry

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A preliminary analysis of INS form I-92 data indicated that only about five percent or less of U.S.-citizen trips between the United States and foreign countries take place on air carriers using smaller aircraft (i.e., aircraft seating less than 60 passengers). Thus, the vast majority of U.S.-citizen passengers traveling between the United States and foreign countries appear to do so on air carriers that employ larger aircraft, and for whom airport congestion should be more of a concern.

(Note: because preliminary analysis of INS form I-92 data indicated that only a very small percentage of U.S.-citizen trips between the United States and foreign countries take place on air carriers that use smaller aircraft, and that might thus use low cost or manual methods of collecting passenger manifest information at the airport, air carriers using smaller aircraft are not treated separately in the estimates above.)

<sup>54</sup> It is because of the second reason in the previous sentence, that current airport check-in procedures are not substantially different from what might be needed under the proposed rule, that no additional costs are included in the analysis for the verification of (full) names provided by U.S.-citizen travelers against the name on their passport, if a passport is required for travel. For boarding to occur under the proposed rule, the names would be required to match. While this is not necessarily true today, passports are nonetheless currently checked at airport check-in. Because such a passport checking procedure exists today, it is assumed in the above analysis that the additional requirement for verification contained in the proposed rule will not add additional costs.

can be developed.<sup>55</sup> The resulting estimate of air carrier one-time cost of implementing the passenger manifest information requirement in the NPRM can be used together with previous estimates of the annual recurring costs of the NPRM to derive an estimate of the total cost of the NPRM for the first year. The future cost stream of the proposed rule -- consisting of annual recurring costs over ten years and one-time cost -- can be discounted to derive an estimate of the present value of the total costs of the proposed rule.

As noted above, British Airways estimated its one-time costs to implement a passenger manifest information requirement to be \$1.1 million (in 1990 dollars) -- \$1 million to modify its CRS and its interface with other CRSs, and \$0.1 million to modify its DCS. Assuming that these costs are representative of individual air carrier one-time costs of implementing a passenger manifest information collection requirement, BA's one-time costs can be scaled upward to represent the one-time costs of the proposed rule for the air carrier industry as a whole and adjusted to bring the dollar amounts

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<sup>55</sup> No adjustment to one-time cost is made to account for the differing amounts of passenger manifest information that air carriers would be required to collect from passengers traveling between the United States and countries that do, and do not, require a U.S. passport because it is unlikely that one-time cost, which is basically the cost of hardware and software modifications needed to implement a passenger manifest information requirement, would be influenced by the fact that some flights would require the solicitation/collection of four pieces of passenger manifest information, while other flights would require the solicitation/collection of three pieces of passenger manifest information.

forward to 1994.<sup>56</sup> The resulting figure for the air carrier industry one-time cost of implementing the proposed rule is \$30.5 million in 1994 dollars.<sup>57</sup>

To derive the cost of the proposed rule for the first year, one-time cost can be added to a discounted figure for the first year of annual recurring costs.<sup>58</sup> From above, undiscounted annual recurring costs range between \$53.8 and \$72.8 million, depending on whether it is assumed that passenger manifest information is collected once or twice per round trip journey. Since the recurring costs occur throughout the year, an average of two present value (PV) calculations -- one that assumes that payment occurs at the beginning of the time period, and another that assumes that

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<sup>56</sup> Since the majority of these one-time costs consist of computer programming costs, the BLS index for the white-collar occupational group, 'Professional Specialty and Technical' is used here as a proxy for the wages of computer programmers to adjust the 1990 dollars to 1994 dollars. An overall (average) 1994 index for this group was constructed from available quarterly indexes, and was divided by an overall (average) 1990 index for this group that was developed by the same process. The result is multiplication of the 1990 costs by a factor of 1.1785. (See appendices 3 and 4 for BLS occupational group information.)

<sup>57</sup> The exact figure is \$30,520,385.10.

A simple upward scaling of BA's estimates of its fixed costs, based on BA's percentage of total 1990 U.S.-citizen international trips, is employed here. We believe that that industry fixed costs will vary more in relation to BA's portion of some comparable industry total, rather than vary in relation to BA's portion of total passengers covered by the proposed rule. In 1990, DOT estimates that BA accounted for 1,843,175 out of a total of 43,394,462 U.S.-citizen trips on all air carriers. (Sources are 1990 U.S. International Travel Statistics and DOT internal estimates.)

The BA one-time cost figures explicitly include funds for the development of an interface between its CRS and other CRSs, and thus the air carrier industry one-time cost figure takes into account the costs of the development of an interface for air carrier CRS's. (The Air Transport Association of America [ATA], in its ANPRM comments, indicated that it would develop such an interface for U.S. carriers, but ATA gave no specific cost figures for this effort.) Finally, it is not anticipated that the costs of modifying CRSs and DCSs would be borne by the travel agent industry, and thus one-time cost includes no cost for the travel industry.

<sup>58</sup> The discount rate used is 10 percent, the discount rate that is specified by the Office of Management and Budget (OMB) for use in Federal Government benefit-cost calculations.

payment occurs at the end of the time period -- will be used to discount these costs.<sup>59</sup> Discounting the costs for the first year in this fashion yields a range of between \$51.4 and \$69.5 million.<sup>60</sup> Adding one-time cost yields a range of first year costs of the proposed rule of between \$81.9 and \$100.0 million.<sup>61</sup>

The discounted future cost streams over a ten-year time horizon for the cases in which passenger manifest information is collected once per round trip journey and twice per round trip journey appears on the following page:<sup>62</sup>

year	one collection per round trip	two collections per round trip
time 0 (one-time cost)	\$30,520,385.10	\$ 30,520,385.10
year 1	\$51,393,504.56	\$ 69,529,418.02
year 2	\$46,721,367.78	\$ 63,208,561.84
year 3	\$42,473,970.71	\$ 57,462,328.94
year 4	\$38,612,700.65	\$ 52,238,480.86
year 5	\$35,102,455.13	\$ 47,489,528.05
year 6	\$31,911,322.85	\$ 43,172,298.23
year 7	\$29,010,293.50	\$ 39,247,543.84
year 8	\$26,372,994.09	\$ 35,679,585.31
year 9	\$23,975,449.17	\$ 32,435,986.65
year 10	\$21,795,862.88	\$ 29,487,260.59
total	\$377,890,306.42	\$500,471,377.42

The present value over ten years of the costs of the proposed rule thus ranges between about \$377.9 and \$500.5 million.

<sup>59</sup> See OMB Budget Circular A-94 Revised (Transmittal Memo No. 64) October 29, 1992, Appendix B: Additional Guidance for Discounting, for the rationale behind the approach used here. The method of calculation here should yield results that are computationally equivalent to the mid-year discount factors given in Appendix B.

<sup>60</sup> The exact figures are \$51,393,504.56 and \$69,529,418.02.

<sup>61</sup> The exact figures are \$81,913,889.66 and \$100,049,803.12.

<sup>62</sup> Again, since the annual recurring costs occur throughout the year, an average of two present value (PV) calculations -- one that assumes that payment occurs at the beginning of the time period, and another that assumes that payment occurs at the end of the time period -- is used.

Adjustment of the Costs of the Proposed Rule Based on Bureau of Labor Statistics  
Proxy Compensation Figures for Air Carrier Reservation and Check-In Personnel and  
Travel Agents

The simple economic model employed in the above calculations of the cost of the proposed rule appears to provide a plausible methodological approach to derive rough estimates of the amount of air carrier, travel agent, and covered-international-traveler time that would be required to implement the passenger manifest requirement in the proposed rule. The model uses as an input estimates of the time it would take to collect passenger manifest information from the average passenger that were contained in ANPRM comments provided to the Department by British Airways.

Because such information was not explicitly provided in ANPRM comments, however, the wage rate of air carrier reservation and check-in personnel that would collect the passenger manifest information had to be imputed from the overall air carrier cost information estimates provided in the BA comments and the time estimates from the economic model. In the above estimate of the cost of the proposed rule, additional air carrier reservation and check-in personnel and outside travel agents that would be needed to implement a passenger manifest requirement are all assumed to receive this same imputed wage. As noted earlier, this imputed wage rate, based on British Airways comments for the additional reservation/check-in/travel agent personnel needed to implement a passenger manifest requirement, was \$37.58 per hour or \$78,170.03 in 1990 dollars. Once adjusted, it is \$44.01 per hour or \$91,540.80 per year in 1994 dollars.<sup>63</sup> This wage level is difficult to reconcile. A wage rate

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<sup>63</sup> A standard 2080-hour work year is used for all conversions of hourly to yearly wages.

From the information supplied in ANPRM comments, it is not possible to determine if a substantial number of passengers may book reservations and then cancel them or just



of this magnitude could be expected to impart an upward bias to the calculations of the cost of the proposed rule that were provided earlier.

An alternative estimate of the cost of the proposed rule may be made using Bureau of Labor Statistics (BLS) total compensation figures (i.e., employer cost per hour worked -- including wages and salaries, and benefit costs) for these types of personnel. Since no exact counterpart for these types of personnel exists in BLS occupational groups, a proxy occupational group must be used. As a proxy for air carrier reservation personnel (who, as indicated above are expected to account for the bulk of air carrier collection costs for passenger manifest information), air carrier check-in personnel, and travel agent personnel costs, the BLS white-collar occupational group, 'Administrative Support Personnel, Including Clerical,' was selected.<sup>64</sup> The total compensation of these individuals in March 1994 was \$14.66 per hour (\$10.36 in wages and salaries, and \$4.29 in benefit costs) or \$30,492.80 per year. These BLS hourly compensation figures are about one-third of the imputed wage rate contained in BA's ANPRM comments, and, once based on them, the previously

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not show up for their flights (and perhaps pay a penalty for doing so). Such canceled reservations and "no shows" would lead to time expended by air carrier reservation personnel and travel agents to solicit or to solicit and collect passenger manifest information. This additional time was not considered in calculating above the imputed wage rates from the cost figures that BA supplied and it is unknown to what extent such hours are taken into account in the BA cost estimates. However, a sensitivity analysis of the effect of this additional time for canceled reservations and no shows on the implicit wage rates was performed. For the most extreme case analyzed it was assumed that for every 200 persons that make a reservation, only 100 keep the reservation (i.e., a one-half cancellation rate). Under these assumptions, the implicit wage rate was \$35.06 per hour (or slightly less than \$73,000 per year), which is still a very high figure.

<sup>64</sup> The sources for these hourly compensation figures and other (1990 to 1994) adjustments to labor costs are: U.S. Department of Labor News Release 94-290 (June 16, 1994) and U.S. Department of Labor, Bureau of Labor Statistics, Division of Employment Cost Trends [ECT], Employment Cost Index and Levels 1975-1995, Bulletin 2466 (October 1995). Relevant excerpts from both are provided in Appendices 3 and 4. (A more extensive set of figures from the Bureau of Labor Statistics ECT internet site [<http://stats.bls.gov/ecthome.htm>] is also included in Appendix 3.)

calculated estimate of annual recurring costs of the proposed rule for air carriers and their outside travel agents will drop substantially. One-time cost and the cost of passenger time forgone will not change.

The (adjusted) estimated annual recurring costs of the proposed rule based on Bureau of Labor Statistics proxy compensation figures for air carrier reservation and check-in personnel and travel agents now range between \$30.6 and \$49.6 million, and breakout: air carriers (\$6.9 million) -- split between U.S. air carriers (\$4.9 million) and foreign air carriers (\$1.9 million); travel agents (\$4.7 million); and unchanged-from-before passengers' time forgone (\$19.0 million to \$38.0).<sup>65</sup> The corresponding discounted future cost streams over a ten-year time horizon incorporate an unchanged-from-before one-time cost figure and now become:

year	one collection per round trip	two collections per round trip
time 0 (one-time cost)	\$ 30,520,385.10	\$ 30,520,385.10
year 1	\$ 29,213,933.93	\$ 47,349,847.39
year 2	\$ 26,558,121.76	\$ 43,045,315.81
year 3	\$ 24,143,747.05	\$ 39,132,105.28
year 4	\$ 21,948,860.96	\$ 35,574,641.17
year 5	\$ 19,953,509.96	\$ 32,340,582.88
year 6	\$ 18,139,554.51	\$ 29,400,529.89
year 7	\$ 16,490,504.10	\$ 26,727,754.44
year 8	\$ 14,991,367.36	\$ 24,297,958.59
year 9	\$ 13,628,515.78	\$ 22,089,053.26
year 10	\$ 12,389,559.80	\$ 20,080,957.51
total	\$227,978,060.32	\$350,559,131.32

According to these calculations, the adjusted estimate of the present value over ten years of the cost of the proposed rule ranges between about \$228.0 and \$350.6

<sup>65</sup> The exact figures are: air carriers (\$6,857,822.20) -- split between U.S. air carriers (\$4,946,113.93) and foreign air carriers (\$1,911,708.27); travel agents (\$4,747,723.06); and passengers' time forgone (18,999,528.39 to \$37,999,056.77).

million, and the first year cost of the proposed rule ranges between about \$59.7 million and \$77.9 million, depending on whether passenger manifest information is assumed to be collected once or twice per round trip.<sup>66</sup>

Final Adjustment of the Costs of the Proposed Rule to Account for Air Carrier Participation in the Advance Passenger Information System

The rough estimates of the costs of the proposed rule that have been developed so far rely upon ANPRM comments, especially those of British Airways (BA), the one carrier that provided specific cost estimates in response to the ANPRM. The basic assumptions of BA regarding the incremental burden that would be imposed by a passenger manifest information requirement are incorporated into the estimates, although BA's (imputed) labor costs have been adjusted to make them more credible. At the time that BA provided ANPRM comments, air carrier participation in the Advance Passenger Information System (APIS) of the U.S. Customs Service was not widespread. Air carrier participation in APIS has been growing, however, and is widespread today.<sup>67</sup> Moreover, since air carriers voluntarily participate in APIS, one could

<sup>66</sup> The exact figures for the latter are: \$59,734,319.04 and \$77,870,232.50.

<sup>67</sup> API is collected and transmitted by 49 air carriers: ACES; Aero Peru; Air France; Air Jamaica Limited; Air New Zealand; Alitalia-Linee Aeree Italiane; All Nippon Airways Co.; ALM Antillean Airlines; American Airlines; Asiana Airlines; Austrian Airlines; Avianca Airlines; Aviateca; Balair AG; Britannia Airways Ltd.; British Airways PLC; BWIA International; Cathay Pacific Airways, Ltd.; China Airlines, Ltd.; Compania de Aviacion Faucett; Continental Air Lines; Delta Air Lines; EVA Airlines; Japan Air Lines Co., Ltd; KLM Royal Dutch Airlines; Korean Air Lines Co., Ltd.; LACSA; LADECO; LAN-Chile Airlines; Lines Aereas Paraguayas; Lufthansa German Airlines; Martinair Holland N.V.; Mexicana de Aviacion; NICA; Northwest Airlines; Philippine Airlines, Inc.; Qantas Airways, Ltd.; SAETA Airlines; Scandinavian Airlines System; Singapore Airlines Ltd.; South African Airways; Swissair Transport Company, Ltd.; TACA International Airlines; TAESA; TAP - Air Portugal; Trans World Airlines; United Air Lines; USAir; and Virgin Atlantic Airways. In addition, API is also collected and transmitted for U.S.-bound passengers by the Governments of Australia and New Zealand as part of the collection of API that is performed by Australian Immigration and New Zealand Customs for all passengers departing (but not necessarily those transiting) these countries.

conclude that participating air carriers have determined that the benefits of participating in APIS exceed the costs of doing so. Air carrier participation in the Advance Passenger Information System (APIS) should, since APIS information requirements duplicate some of the information requirements in the proposed rule, reduce the costs of the proposed rule. The rough estimates developed above are adjusted for these duplicate information requirements in this section.

To participate in APIS, air carriers collect, as a minimum, advance passenger information (API) consisting of a passenger's first name and last name, and date of birth (DOB). Often, however, API consisting of the full name, travel document number (e.g., passport number), travel document nationality, and DOB of a passenger is collected. API thus often constitutes two of the four pieces, or one-half, of the information that would be required by the proposed rule from covered passengers that travel between the United States and countries that require a U.S. passport.<sup>68</sup> Since a passenger's first and last names are always a part of API, it will be considered here that API always constitutes one of the three pieces, or one-third, of the information that would be required by the proposed rule from covered passengers that travel between the United States and countries that do not require a U.S. passport.<sup>69</sup>

Advance passenger information is used to facilitate the movement of all passengers (U.S.-citizen and non-U.S. citizen) through U.S. airports.<sup>70</sup> For APIS-covered

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<sup>68</sup> A preliminary analysis of May-July 1996 U.S. Customs Service data on APIS transmissions from countries that require a U.S. passport for travel to them shows that travel document information (i.e., passport or visa information, including number) is transmitted for about 37 percent of APIS-covered passengers.

<sup>69</sup> That is, we are considering for adjustment purposes here that having a passenger's first and last names as part of API substitutes fully for the full name required by the proposed rule.

<sup>70</sup> Thirty nine U.S. airports received APIS-covered flights in 1995.

flights, participating carriers collect API on the ground, before the flights depart, and transmit it ahead of the arrival of the flights in the United States. It is estimated by the U.S. Customs Service that, on average, passengers for whom API has been collected save approximately 15 minutes in total processing time at U.S. airports. (Total processing time refers here to processing time by all federal inspection agencies taken together.) The magnitude of these time savings to U.S.-arriving passengers is impressive. During the past fiscal year (FY 1995), for example, API was used to facilitate the processing of about 22.7 million passengers (on more than 177,000 flights) through U.S. airports. The corresponding total time savings was (using the U.S. Customs Service's estimate of, on average, savings of approximately 15 minutes in total federal inspection time per passenger) about 5.7 million hours.

U.S. and foreign air carriers participate in APIS. Air carriers that primarily engage in charter operations as well as those that primarily engage in scheduled operations have participated in APIS. APIS allows carriers flexibility in their choice of method of collecting the API; they may employ automated (passport) readers or less automated procedures. The U.S. Customs Service lends document readers to air carriers to assist them in automating and making more accurate the collection of API. (Machine-readable passports are a prerequisite to automating the collection of API using document readers.) To date, the U.S. Customs Service has lent about 3,700 readers.<sup>71</sup> API is also collected manually, however, and is keystroked-in for transmittal to the U.S. Customs Service ahead of covered flights.

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<sup>71</sup> The U.S. Customs Service will lend document readers to air carriers wishing to participate in the APIS program. These loans of document readers are funded from U.S. Customs Service Cobra funds.

Many carriers use their Computer Reservation Systems (CRSs) in the collection of API, and carriers with CRSs of varying levels of sophistication have expressed an interest in participating in APIS. API data are also sometimes collected for passengers departing the United States. Since July 1993, Delta Air Lines has been collecting API on all outbound flights, and USAir began collecting this so-called "Outbound API" in 1994. Other carriers have also expressed an interest in collecting Outbound API. Outbound API is stored for air carrier transmission into APIS when passengers return to the United States. Outbound API is also transmitted to the U.S. Customs Service for use in long-range advance analysis.<sup>72</sup>

Based on this sketch of the APIS program, one could alternatively envision the passenger manifest information collection requirement in the proposed rule as being "piggybacked" onto existing or contemplated voluntary carrier participation in APIS. Doing so would mean that for any passenger from whom API is being gathered, the incremental burden of the proposed rule could be only gathering the name and telephone number of an emergency contact.

Using the same assumptions that were employed in the cost calculations above, an APIS-covered passenger would usually forgo 20 seconds being asked for and providing the name and telephone number of an emergency contact, and 4 seconds just being asked for this information. Thus, such passengers would have to forgo on average 22 seconds to be asked for and provide the name and telephone number of an emergency

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<sup>72</sup> Long-range advance analysis works as follows: sometime following the departure of an Outbound API-covered flight, the Outbound API for the flight/several flights is batch processed and sent to the U.S. Customs Service. U.S. Customs Service inspectors use the Outbound API, and other data sources, to target suspect outbound passengers on their eventual return to the United States. (The U.S. Customs Service understands from U.S. carrier reports that 75-80 percent of passengers departing the United States hold round-trip reservations to return to the United States.)

contact.<sup>73</sup> This is 50 percent of the time (44 seconds) that it would take under the proposed rule to solicit/collect complete passenger manifest information from covered passengers who travel between the United States and countries that require a U.S. passport, and 66.67 percent of the time (33 seconds) that it would take under the proposed rule to solicit/collect complete passenger manifest information from covered passengers who travel between the United States and countries that do not require a U.S. passport. The annual burden on carriers and their agents of collecting passenger manifest information for flights for which API was being collected could be expected to decrease in a similar fashion since carriers and their agents should experience commensurate reductions in the amount of time required to collect the incremental passenger manifest information. Thus, for any covered passenger for whom API information is gathered or is contemplated to be gathered, the cost of the proposed rule could be reduced by one-third to one-half as compared to the estimates given above for the passenger manifest information proposed rule considered in isolation.<sup>74</sup>

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<sup>73</sup> The average of 22 seconds per passenger results from the application of assumptions used previously to the (current) case where API is being collected. According to these assumptions, one-half of all passengers could be expected to be asked for and provide the name and telephone number of an emergency contact at the time of reservation (which would require 20 seconds); the other one-half of all passengers could be expected to be asked for but not provide the name and telephone number of an emergency contact at the time of reservation (which would require 4 seconds) and would then be asked for and provide the information at the time of check-in (which would require 20 seconds).

<sup>74</sup> The cost reduction is 33.33 percent (one-third) for covered-passenger trips between the United States and countries that do not require a U.S. passport since passenger manifest information would now consist of only emergency contact name and telephone number, rather than these two pieces information plus one more piece of passenger manifest information, full name. The cost reduction is 50.00 percent (one-half) for covered-passenger trips between the United States and countries that do require a U.S. passport for travel since passenger manifest information would now consist of only emergency contact name and telephone number, rather than these two pieces of information plus two more pieces of passenger manifest information, full name and passport number. Moreover, a strong possibility (according to the information in footnote 68, a 63 percent possibility) exists that these latter individuals will not have a passport number as part of their API. In this case the cost reduction will be only 25.00 percent (one-quarter) since passenger manifest

As mentioned, participation in APIS has been growing over time. U.S. Customs Service fiscal-year-end-1994 statistics showed an overall APIS coverage of about 42 percent of all U.S.-arriving international air passengers; fiscal-year-end-1995 statistics showed an overall APIS coverage of about 50 percent; and the U.S. Customs Service has set a fiscal-year-end 1996 goal of covering 55 percent. Current U.S. Customs Service statistics show that APIS information is gathered and transmitted for somewhat over 50 percent of international air passengers arriving in the United States. These statistics also show that U.S. carriers account for about 67.5 percent, and foreign carriers account for about 32.5 percent, of APIS-covered passengers arriving in the United States.

The above information can be used to adjust the estimates of the costs of the proposed rule to remove any duplicate information collection requirements of APIS and the proposed rule. Doing so should lead to more accurate estimates of the incremental costs of the proposed rule.<sup>75</sup> The (finally adjusted) estimated annual recurring costs of the proposed rule (in 1994 dollars) range between \$27.6 and \$44.8 million and breakout as follows: air carriers (\$6.2 million) -- split between U.S. air carriers (\$4.4 million) and foreign air carriers (\$1.8 million);

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information would now consist of emergency contact name and telephone number and passport number, rather than these three pieces of information plus one more piece of passenger manifest information, full name.

<sup>75</sup> To summarize, the adjustment will be based on 50 percent of arriving passengers from passport and non-passport countries being covered by APIS (67.5 percent of the total on U.S. air carriers and 32.5 percent of the total on foreign air carriers). A further refinement is made to account for the fact that of those APIS-covered passengers arriving from countries that require a U.S. passport, about 37 percent will have a full name and passport number as part of their API, and about 63 percent will have a full name, but not a passport number.



travel agents (\$4.3 million); and passengers' time forgone (\$17.2 to \$34.3 million).<sup>76</sup>

The corresponding discounted future cost streams over a ten-year time horizon incorporate an unchanged-from-before one-time cost figure and now become:

year	one collection per round trip	two collections per round trip
time 0 (one-time cost)	\$ 30,520,385.10	\$ 30,520,385.10
year 1	\$ 26,389,669.76	\$ 42,772,289.38
year 2	\$ 23,990,608.88	\$ 38,883,899.44
year 3	\$ 21,809,644.43	\$ 35,348,999.49
year 4	\$ 19,826,949.48	\$ 32,135,454.08
year 5	\$ 18,024,499.53	\$ 29,214,049.16
year 6	\$ 16,385,908.67	\$ 26,558,226.51
year 7	\$ 14,896,280.60	\$ 24,143,842.28
year 8	\$ 13,542,073.28	\$ 21,948,947.53
year 9	\$ 12,310,975.71	\$ 19,953,588.66
year 10	\$ 11,191,796.10	\$ 18,139,626.06
total	\$208,888,791.54	\$319,619,307.70

Thus the final estimate of the present value over ten years of the cost of the proposed rule ranges between about \$208.9 and \$319.6 million, and the first year cost of the proposed rule ranges between about \$56.9 million and \$73.3 million, depending on whether passenger manifest information is assumed to be collected once or twice per round trip.<sup>77</sup>

<sup>76</sup> The exact figures are: air carriers (\$6,194,840.57) -- split between U.S. air carriers (\$4,397,278.12) and foreign air carriers (\$1,797,562.45); travel agents (\$4,288,735.78); and passengers' time forgone (\$17,162,744.36 to \$34,325,488.72).

<sup>77</sup> The exact figures for the latter are: \$56,910,054.87 and \$73,292,674.48.

It is assumed in the calculation of the low-end APIS-adjusted cost estimates (which represent the collection of the passenger manifest information once per round trip) that air carriers would shift their operations to collect API on the outbound segment of the passenger journey, and that this shift could be accomplished costlessly. This latter assumption is based on our understanding that because of their built-up experience with inbound API systems, carriers that have shifted to Outbound API (Delta and US Air) have done so without incurring major costs.

The Calculation of Cost Per Enhanced Notification and Cost Per One-Way Trip/Round Trip of the Proposed Rule

Two perspectives on the cost of the proposed rule are provided in this section.

First, the cost per enhanced notification of the proposed rule taking into account only the direct notification benefits of the rule, and then taking into account the direct and indirect notification benefits of the proposed rule, will be calculated. Both of these cost-per-enhanced-notification calculations employ the present discounted costs of the proposed rule over ten years divided by the relevant number of fatalities that have occurred on the types of flights that the proposed rule would cover over a representative ten-year time period. Second, the annual recurring costs of the proposed rule to all parties (air carriers, travel agents, and travelers on flights to and from the United States) will be divided by the number of one-way and round trips taken by passengers in 1994 who would have been subject to the proposed rule were it in effect. The results of these calculations is a cost per (covered) passenger per one-way trip and a cost per (covered) passenger per round trip of the proposed rule -- that is, how much the individual (covered) passenger would have to pay on each type of trip were the individual traveler assumed to be liable to pay for all the costs of the proposed rule.<sup>78</sup>

Beginning first with the cost-per-enhanced-notification calculations, it was mentioned above that two of the three direct benefits of the proposed rule, and the

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<sup>78</sup> As mentioned earlier in the main text, no analysis of the incidence of the costs proposed rule (that is, who will ultimately end up paying for the additional costs imposed by the proposed rule) are performed in this preliminary regulatory evaluation. The calculations of a cost per (covered) passenger per one-way and round trip of the proposed rule are thus performed on an "as if" basis: as if all the costs of the proposed rule would be borne ultimately by the passengers subject to the proposed rule.

only indirect benefit of the proposed rule, relate to the enhanced notification of families of, or the enhanced notification of the home governments of families of, passengers on a flight to and from the United States that ends in disaster.<sup>79</sup> The cost figures for the present value of the costs of the proposed rule over ten years from the previous section can be compared with the number of passenger fatalities during a representative ten-year period from aviation disasters that occurred on

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<sup>79</sup> In order to put into perspective the enhancement that would be provided under the NPRM, in the case of the Pan Am Flight 103 aviation disaster a passenger list -- consisting of first initials and surnames -- was first provided by Pan American to the Department of State about seven hours after the disaster was learned of. This list did not contain sufficient information to allow the Department of State to contact all of the families of the victims. The Department of State did, however, on the basis of the information in this initial list, begin -- about two hours later -- contacting those families that had already contacted the Department of State to inquire about relatives aboard Pan Am Flight 103. These efforts were stopped when some of the families, who had already been contacted by Pan American, complained about being contacted a second time. Thus, some of the families of victims of Pan Am Flight 103 were contacted within nine hours or less after the disaster was learned of. For these families, were the passenger manifest requirement in the NPRM in effect prior to the Pan Am Flight 103 aviation disaster, it should have resulted in a maximum notification enhancement of about six to eight hours -- depending on whether a manifest was available to be forwarded to the Department of State within one or three hours after an aviation disaster was learned of as is provided for in section 203 of P.L. 101-504.

Subsequently, about thirty-six hours later, or about 43 hours after the disaster was learned of, the Department of State received from Pan American its contact list, which had much more complete data on the survivors (i.e., families) of the victims of Pan Am Flight 103. At this time, Pan American also informed the Department of State that it (Pan American) had notified all the families of the victims. Thus, for the remainder of the families of the victims of Pan Am Flight 103, were the passenger manifest information requirement in the NPRM in effect prior to the Pan Am Flight 103 aviation disaster, the maximum notification enhancement would have been somewhere between about nine, and a maximum of 42 hours. (Information on notification of families of victims of Pan American 103 is taken from: Report of the President's Commission on Aviation Security and Terrorism [Washington: 1990] -- Chapter 7 [including endnotes, especially endnote 39]).

(Note: The figures of 6 to 8 hours and 42 hours are listed as a maximum enhancement figures because the Report of the President's Commission on Aviation Security and Terrorism does not give the specific time range during which Pan American notified the families of the victims.)

flights to and from the United States to derive a rough estimate of the cost per enhanced notification of the proposed rule.<sup>80</sup>

For accidents on large aircraft on the types of flights that would be covered by the proposed rule, data for the most recent ten-year period (July 1986-July 1996) were shown in Table 1 above. Since comparable accident data for air taxis and commuters are not readily available, a previously constructed nine-year series (1983-1991) will be used for accidents on these carriers. The taxi/commuter accident data were shown in Table 2 above. While every effort has been made to obtain complete coverage of accidents that have occurred on the types of flights that the proposed rule would cover, the information in Tables 1 and 2 is known to be incomplete.<sup>81</sup> As a result, it is necessary to develop, using available information, an adjusted number representing passenger fatalities that occurred on flights to and from the United States over a representative ten year period for which enhanced notification benefits would have been provided to either their families or home governments were the proposed rule in effect.<sup>82</sup>

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<sup>80</sup> In comparing future costs to historical accident data, an implicit assumption is being made that the pattern of future accidents will be the same as in the past. This may not be the case, especially as additional resources are being expended by this Department and others to reduce the number of future accidents. Were the pattern of future accidents to decrease as a result of these additional expenditures, then our estimates of the cost per enhanced notification of the proposed rule would increase. We are implicitly making a "same-pattern-in-the-future assumption" regarding aviation disasters more for pedagogic purposes here, in order to allow us to obtain a rough estimate of the cost per enhanced notification of the proposed rule.

<sup>81</sup> In Tables 1 and 2, the percentage of accidents that are covered has been estimated -- see the last sentence under 'Source' for each Table. The percentages are eighty (80) percent for Table 1, and sixty (60) percent for Table 2.

<sup>82</sup> That is, the adjusted number will reflect as many as two adjustments to the accident data contained in Tables 1 and 2. First, a coverage adjustment will need to be made for data from both Tables 1 and 2. Second, since Table 2 portrays accidents over only nine years, an adjustment to convert the nine-year figures to ten-year figures (i.e., multiplication by a factor of ten-ninths [1.11]) will need to be made for accident data from Table 2.

The first direct notification benefit of the proposed rule would accrue in the form of the enhanced notification of the families of U.S.-citizen passenger victims of aviation disasters on flights to and from the United States, for which the accident responsible for the deaths occurred outside the United States. The adjusted ten-year figure for these fatalities is 303.<sup>83</sup> The other direct notification benefit of the proposed rule would accrue in the form of the enhanced notification of the home government of foreign-citizen victims of aviation disasters on U.S.-flag air carrier flights to and from the United States, for which the accident responsible occurred either within or outside the United States. (The proposed rule would require that U.S. air carriers collect passenger manifest information for foreign-citizen passengers on flights to and from the United States.) The adjusted ten-year figure for these fatalities is 292.<sup>84</sup>

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<sup>83</sup> The figure of 303 is arrived at by first multiplying the 239 U.S.-citizen fatalities from Table 1 that are attributable to (fatal) accidents that occurred outside the United States and on nonmilitary flights (i.e., the 02-14-87; 12-21-88; and 12-20-95 accidents) by 1.25 to account for the 80 percent coverage of Table 1, which yields a figure of 299. To this figure is added 4, which represents the 2 U.S.-citizen fatalities from Table 2 that are attributable to the (fatal) accident that occurred outside the United States (i.e., the 03-18-91 accident), multiplied first by 1.67 to account for the 60 percent coverage of Table 2, and then multiplied by 1.11 to adjust the nine-year series of accidents contained in Table 2 to represent ten years. The final figure is 303.

(Note: As in the NPRM, the United States is defined to be the States comprising the United States of America, the District of Columbia, and the territories and possessions of the United States, including the territorial waters and the overlying airspace thereof.)

<sup>84</sup> The figure of 292 is arrived at by first multiplying the 230 foreign-citizen (alien) fatalities from Table 1 that are attributable to (fatal) accidents that occurred (either inside or outside the United States) on U.S. air carrier flights to and from the United States (the 12-21-88; 2-24-89; 12-20-95; and 7-17-96 accidents) by 1.25 to account for the 80 percent coverage of Table 1, which yields a figure of 287.5. To this figure is added 4, which represents the 2 non-U.S.-citizen fatalities from Table 2 that are attributable to the (fatal) accident that occurred on a flight to and from the United States on a U.S. air carrier (i.e., the 03-18-91 accident), multiplied first by 1.67 to account for the 60 percent coverage of Table 2, and then

The sum of the fatalities is 595. Were it in effect for a representative ten-year period, the proposed rule would have provided direct enhanced notification benefits to the families or home governments of these 595 victims. Comparison of this number with the final estimates of the discounted ten-year costs of the proposed rule yields a cost per enhanced notification of the direct notification benefits of the proposed rule of between about \$351,000 and \$537,000, depending on whether it is assumed that passenger manifest information is collected once or twice per round trip journey.<sup>85</sup>

Another cost-per-enhanced-notification calculation can be done that takes into account both the direct notification benefits of the proposed rule from above and the indirect notification benefit of the proposed rule. The indirect notification benefit that was identified earlier is the enhanced notification of the families of U.S.-citizen victims of aviation disasters involving flights operating to and from the United States that occur in the United States (i.e., the July 17, 1996, TWA flight 800 aviation disaster in Long Island, New York). The enhanced notification in this instance falls into the category of indirect benefits because the U.S. Department of State has no responsibilities regarding an aviation disaster that occurs within the United States. However, if the required manifest information has been compiled by the air carrier and is on hand for the flight (i.e., for use in the event of an aviation disaster that occurs outside the United States), it is possible that having the information on hand could lead to quicker notification of the families of U.S.-citizen victims. The adjusted ten-year figure for U.S.-citizen passenger victims of aviation disasters that occurred within the United States on

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multiplied by 1.11 to adjust the nine-year series of accidents contained in Table 2 to represent ten years. The final figure is 292.

<sup>85</sup> The exact figures are \$351,073.60 and \$537,175.31.

flights to and from the United States, that is, those passenger victims whose families might have received indirect enhanced notification benefits were the proposed rule in effect, is 282.<sup>86</sup>

Thus, direct or indirect notification benefits of the proposed rule could have been expected to accrue to the families or home governments of an adjusted total number of 877 passenger victims of aviation disasters were the proposed rule in effect for a representative 10 year period. The associated cost per enhanced notification of the proposed rule that takes into account both direct and indirect notification benefits ranges between about \$238,000 and \$364,000, depending on whether it is assumed that passenger manifest information is collected once or twice per round trip journey.<sup>87</sup>

Another way of looking at the costs of the proposed rule is to compare the annual recurring costs of the proposed rule to the annual number of trips taken by passengers who would be covered by the rule. The final estimated annual recurring costs of the proposed rule (to air carriers, travel agents, and passengers) range between \$27.6 and \$44.8 million (in 1994 dollars). The number of (one-way) trips by passengers that would have been covered by the proposed rule were it in effect in 1994 is 71,502,384 trips. The corresponding cost per passenger per one-way trip thus

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<sup>86</sup> The figure of 282 is arrived at by first multiplying the 222 U.S.-citizen fatalities from Table 1 that are attributable to (fatal) accidents that occurred inside the United States on flights to and from the United States (the 08-31-86; 09-20-87; 02-24-89; and 01-25-90; and 07-17-96 accidents) by 1.25 to account for the 80 percent coverage of Table 1, which yields a figure of 277.5. To this figure is added 4, which represents the 2 U.S.-citizen fatalities from Table 2 that are attributable to (fatal) accidents that occurred inside the United States on flights to and from the United States (i.e., the 03-08-90 accident), multiplied first by 1.67 to account for the 60 percent coverage of Table 2, and then multiplied by 1.11 to adjust the nine-year series of accidents contained in Table 2 to represent ten years. The final rounded figure is 282.

<sup>87</sup> The exact figures are \$238,185.62 and \$364,446.19.

ranges between about \$0.39 and \$0.63, depending on whether it is assumed that passenger manifest information is collected once or twice per round trip. The corresponding cost per round-trip is twice this cost, and ranges between about \$0.78 and \$1.26.

Sensitivity of the Estimates of the Costs of the Proposed Rule to Variations in the Amount of Time Needed to Solicit and Collect Passenger Manifest Information

The additional amount of time that it is assumed to take to solicit and collect the additional passenger manifest information that is required by the proposed rule is a fundamental input into the economic model that underlies the final estimates of the costs of the proposed rule. The figure of 40 additional seconds to solicit and collect the additional information was taken from the ANPRM comments of British Airways (BA); was assumed to represent the additional amount of time it would take to solicit and collect the additional information at the time of reservation, as well as at the time of check-in (in its ANPRM comments, BA said only that it would take 40 seconds at check-in); and was, for the sake of analytical convenience, broken into four equal parts to represent the four pieces of passenger manifest information that are specified in the proposed rule for a passenger traveling to a country that requires a U.S. passport for travel to it. This latter convention was then used to postulate that it would take 30 seconds to collect the three additional pieces of passenger manifest information required by the proposed rule from a passenger traveling to a country that does not require a U.S. passport. In addition, it was assumed that it would take one-fifth the amount of time to only solicit the passenger manifest information, as compared to both soliciting and collecting it. That is, for a country that requires a passport for travel to it, it is assumed that it would take



eight seconds (two seconds per piece of information) to just solicit passenger manifest information.

Before outlining arguments that might be made for or against increasing the average number of seconds that it assumed to take to solicit and collect passenger manifest information, there are two major points to be made regarding the context in which the collection of the information contained in the proposed rule would take place.

First, solicitation or solicitation and collection of passenger manifest information at the time of reservation would take place within the confines of existing conversations between passengers and travel agents or air carrier reservation personnel. Solicitation and collection of passenger manifest information at the time of check-in is also likely to take place within the confines of existing conversations between passengers and air carrier check-in personnel. Such existing conversations would already be prone to random stops and starts. An estimate is being made only of the additional amount of time that it would take to solicit or solicit and collect the additional passenger manifest information in the proposed rule. Second, the overall additional number of seconds needed to solicit and collect all pieces of additional information (30 or 40 seconds) is more important than the 10 seconds allotted for the solicitation and collection of each constituent piece of information. The equal time simplification glosses over the facts that a close counterpart of one piece of information, full name, is generally collected today, and that a mechanized technique (scanning passports) for collecting two of the four pieces of information in the proposed rule (full name and passport number and issuing country) exists today and could become more widespread once a final passenger manifest information rule is in place.

Collecting passengers' full names may not require much more effort than is the case today where passengers' last names and first initials are recorded (or any more effort, since some carriers currently collect first and last names). Collecting passengers' passport numbers and issuing countries will generally involve collecting a nine-digit number and then recording, in addition, a two alpha-character code. While we are unaware of any existing air carrier collection of passengers' passport numbers and other passport information outside of air carrier participation in the U.S. Custom Service's APIS program, it is possible that, when faced with the expanded collection of passenger manifest information that is contained in the proposed rule, there could be widespread gravitation toward collection of passport information by scanning passports at the time of check-in. And, were passports to be scanned at airport check-in, passengers' full names would be electronically read, as well. A shift toward scanning passengers' passports at the time of check-in would eliminate the time that has been allotted in the economic model for those passengers who are solicited for passenger manifest information at the time of reservation, but who do not provide such information. (For those passengers from whom passenger manifest information is both solicited and collected at the time of reservation, the time required to do so would just be shifted to the time of check-in from the time of reservation.) Because of the possibilities for congestion at airports, as a practical matter it would seem that, moreover, air carriers would not shift the collection of passenger manifest information to the time of check-in unless doing so (by using scanners on passports or otherwise) would also reduce the amount of time that it took, overall, to solicit and collect the information.

We are unaware of any ongoing explicit collection by air carriers of the other two pieces of information in the proposed rule, passenger emergency contact name and telephone number, and such information can not now be scanned from passports. It is

also our understanding that such information is unlikely to be included in any future additions to the machine-readable information found on some passports. There are practical difficulties with emergency contact information since it is prone to change over time and even from trip to trip -- depending, for example, on whether family members accompany other family members on a given trip.

With this discussion as prologue, some of the arguments that can be made as to why it might take on average more than 40 seconds overall to solicit and collect the additional passenger manifest information contained in the proposed rule are:

- passengers may insist that they be told why they are being asked for more information than has been the case in the past, which could force air carriers/travel agents take additional time to explain that the U.S. Government requires that they be asked for the additional information.
- passengers do not usually know their passport numbers, and are unlikely to have their passports with them when they book reservations, so travel agents and air carrier reservation personnel would have expend additional time calling passengers back to get their passport numbers.
- Since U.S. air carriers would be collecting additional passenger manifest information for both U.S. and foreign-citizen passengers under the proposed rule, U.S. carriers may experience language difficulties in collecting passenger manifest information from non-English-speaking passengers.

Some of the arguments that can be made as to why it might not take on average more than 40 seconds overall to solicit and collect the additional passenger manifest information contained in the proposed rule are:

- At least one of the required four pieces of passenger manifest information, full name, may take no longer to solicit than is the case today (full name may be asked for today, even though we understand that air carriers generally record only passenger surnames and first initials) and, depending on the air carrier, not much longer to collect (type into the Computer Reservation System or Departure Control System).
- Two U.S. air carriers, Delta and USAir, currently collect Outbound API for all U.S. departing passengers. As we understand it, they are already collecting full names (or at least first and last names), and passport numbers from all departing passengers to countries that require a passport, and full names (or at least first and last names), and dates of birth, to countries that do not require a passport. For carriers collecting Outbound API, the marginal burden of collecting the passenger manifest information in the proposed rule will be only soliciting and collecting passengers' contact persons' names and telephone numbers.
- Mechanisms will evolve to minimize the inconvenience of collecting the additional passenger manifest information that is required in the proposed rule -- travel agents may keep passenger manifest information on file for their regular passengers and just confirm that it is still valid each time the passenger books a reservation and air carriers may keep passenger manifest information on file for their frequent flyers and just confirm it each time a reservation is booked.

- The voluntary APIS program and the percentage of passports worldwide that are machine-readable will continue to expand with most of the expansion of the APIS program via the fast collection of passport data by machine readers at the time of check-in. The collection of additional information under the proposed rule will thus evolve, in practice, into the solicitation and collection of only passenger emergency contact name and telephone number.
- While the economic model includes time to both solicit and collect all additional passenger manifest information from each passenger, it is likely that some passengers will refuse to provide emergency contact information, thus reducing the time foregone by the passenger and the time it takes the carrier to collect the information. Even though air carriers would have to make a record of passengers that refuse to give emergency contact information, such a record could be a check mark or the electronic equivalent of a check mark, either of which would take very little time to record.

The table on the following page contains a sensitivity analysis of the economic model that is used to estimate the costs of the proposed rule. It gives the costs of the proposed rule when it is assumed to take on average 40, 45, 50, 55, and 60 seconds overall to solicit and collect passenger manifest information for a traveler to or from a country that requires a passport. (The counterpart times for a non-passport country are 30, 33.75, 37.5, 41.25, and 45 seconds.) The first column of the table gives the final estimated costs of the proposed rule from the preceding section of this regulatory evaluation, which were based on an assumed time of 40 seconds overall to solicit and collect additional passenger manifest information for a traveler to a country that requires a passport. The table then gives the estimated costs of the

proposed rule based on adding 5, 10, 15, and 20 additional seconds to the average overall amount of time to solicit and collect passenger manifest information.

**Number of Seconds to Solicit and Collect Passenger Manifest Information**

Type of Cost	40 sec.	45 sec.	50 sec.	55 sec.	60 sec.
Annual Recurring (low)	\$27.6 mil.	\$31.1 mil.	\$34.6 mil.	\$38.0 mil.	\$41.5 mil.
Annual Recurring (high)	\$44.8 mil.	\$50.4 mil.	\$56.0 mil.	\$61.6 mil.	\$67.2 mil.
Air Carriers	\$6.2 mil.	\$6.9 mil.	\$7.7 mil.	\$8.5 mil.	\$9.3 mil.
-- U.S. Carriers	\$4.4 mil.	\$4.9 mil.	\$5.5 mil.	\$6.0 mil.	\$6.6 mil.
-- Foreign Carriers	\$1.8 mil.	\$2.0 mil.	\$2.2 mil.	\$2.5 mil.	\$2.7 mil.
Travel Agents	\$4.3 mil.	\$4.8 mil.	\$5.4 mil.	\$5.9 mil.	\$6.4 mil.
Passeng. time (low)	\$17.2 mil.	\$19.3 mil.	\$21.5 mil.	\$23.6 mil.	\$25.7 mil.
Passeng. time (high)	\$34.3 mil.	\$38.6 mil.	\$42.9 mil.	\$47.2 mil.	\$51.5 mil.
First Year Costs (low) <sup>88</sup>	\$56.9 mil.	\$60.2 mil.	\$63.5 mil.	\$66.8 mil.	\$70.1 mil.
First Year Costs (high)	\$73.3 mil.	\$78.6 mil.	\$84.0 mil.	\$89.3 mil.	\$94.7 mil.
PV over 10-Years (low)	\$208.9 mil.	\$231.2 mil.	\$253.5 mil.	\$275.8 mil.	\$298.1 mil.
PV over 10 Years (high)	\$319.6 mil.	\$355.8 mil.	\$391.9 mil.	\$428.0 mil.	\$464.2 mil.
Per enhanced notification (low) <sup>89</sup>	\$238,200	\$263,600	\$289,000	\$314,500	\$339,900
Per enhanced notification (high)	\$364,400	\$405,700	\$446,900	\$488,100	\$529,300
Per one-way trip (low) <sup>90</sup>	\$0.39	\$0.43	\$0.48	\$0.53	\$0.58
Per one-way trip (high)	\$0.63	\$0.71	\$0.78	\$0.86	\$0.94

<sup>88</sup> Fixed cost (at time zero) for all times considered is \$30.5 million.

<sup>89</sup> Cost per-enhanced-notification calculations here refer to the case where both the direct and indirect notification benefits of the proposed rule are considered.

<sup>90</sup> Low and high estimates of the cost per round trip can be obtained by doubling the low and high estimates per one-way trip that are given in the table.

## APPENDICES



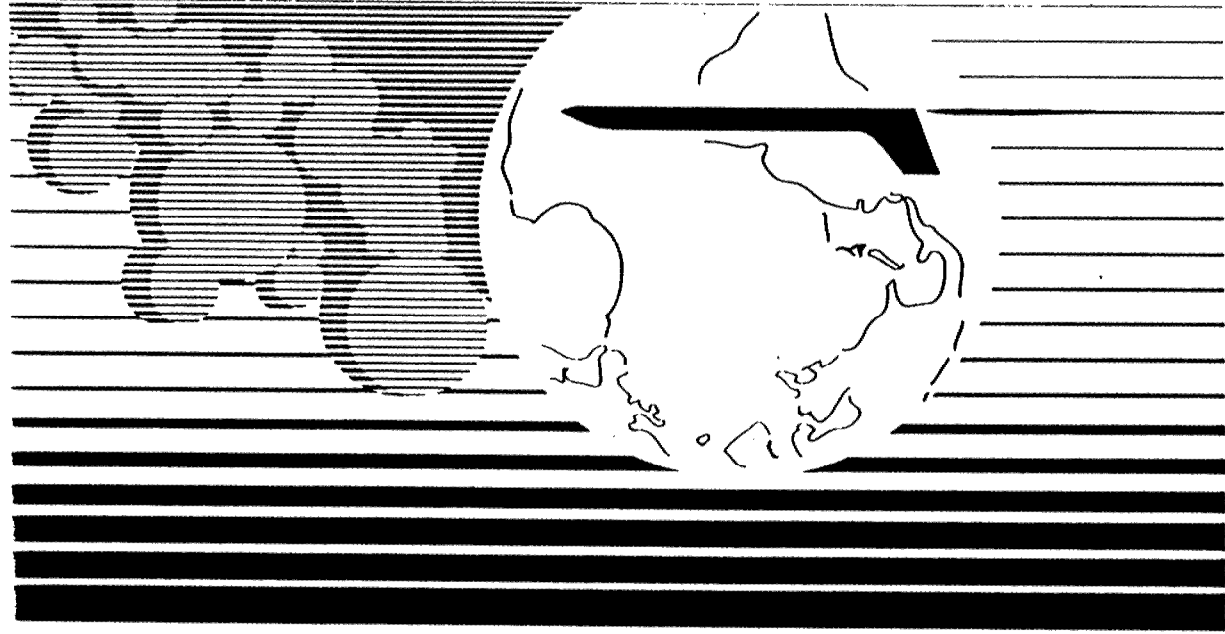
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Volpe National Transportation Systems Center

# U.S. International Air Travel Statistics





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## U. S. INTERNATIONAL AIR TRAVEL STATISTICS

## EXPLANATORY NOTES

Monthly reports contain *preliminary data only*.

Quarterly reports contain updated and revised statistics.

TABLE I (Commercial Traffic)

1. All countries are categorized into world areas consistent with the standard World Area Code, except Greenland which is included with Europe.
2. Chartered flight listings contain all nonscheduled flights, commercial and private.
3. Percentages indicate the percent of total passengers on scheduled or chartered flights out of total passengers, scheduled and chartered.
4. Table Ia contains U. S. arrival data only; Table Id, U. S. departure data.

TABLE II (Commercial Traffic)

1. All countries are categorized into world areas consistent with the standard World Area Code, except Greenland which is included with Europe.
2. Percentages in parenthesis indicate the percent of citizens or aliens of the total inclusive category; U. S. Flag or Foreign Flag.
3. Percentages under the main category heading "Total" indicate the percent of citizens or aliens out of total passengers, citizens and aliens.
4. Table IIa contains U. S. arrival data only; Table IIc, U. S. departure data.

TABLE III (Commercial Traffic)

1. Passenger travel data for all U. S. ports reporting are included in this report.
2. All percentages are of total passengers; hence, each of the following category pairs are complementary with a total of 100%: Citizens and Aliens, U. S. and Foreign Flag Carriers, Scheduled and Chartered Flights.
3. Table IIIa contains U. S. arrival data only; Table IIIc, U. S. departure data.

TABLE IV (Total Commercial Traffic)

1. Flag of Carrier refers to the country in which the airline is registered.
2. Foreign country refers to passenger travel between the U. S. and given foreign country for the indicated carrier.
3. All percentages are of total passengers; hence, each of the following category pairs are complementary with a total of 100%: Citizens and Aliens, Arrivals and Departures, Scheduled and Chartered Flights.
4. Table IV contains combined arrival and departure data in the following categories: Citizens, Aliens, Scheduled, and Chartered Flights.

## APPENDIX 1 (Cont'd)

U.S. Arrivals  
Calendar Year 1894TABLE Ia - Passenger Travel Between U.S. And Foreign Countries  
Distribution by Scheduled and Chartered Flights  
Commercial Traffic Only

Page: Ia- 1

Country	* U.S. Flag * Aliens Citizens	Scheduled Flights Foreign Flag Aliens Citizens	Total (%)	* U.S. Flag * Aliens Citizens	Chartered Flights Foreign Flag Aliens Citizens	Total (%)	* Grand Total						
ALL COUNTRIES	10078751	12256401	10877139	8283367	41498658	( 95 )	228800	725900	731842	634511	2320853	( 5 )	43817511
Central Am & Mx	1458581	2337981	1007419	1258049	6057930	( 90 )	36429	219469	95981	356379	708258	( 10 )	6766188
Belize	10831	40028	14339	36904	102102	( 99 )	9	415	88	599	1109	( 1 )	103211
Costa Rica	91351	165854	62367	83285	402857	( 88 )	121	1729	681	444	2955	( 1 )	4058112
El Salvador	52389	83657	97925	77483	291454	( 100 )	571	181	91	602	1455	( 0 )	292809
Guatemala	121818	109557	83310	60528	375214	( 100 )	79	52	441	129	701	( 0 )	375915
Honduras	40584	64850	22641	43712	171787	( 100 )	44	147	25	38	252	( 0 )	172039
Mexico	1047582	1781838	886052	912648	4407918	( 86 )	35314	216047	93774	353718	698853	( 14 )	5108771
Nicaragua	18634	24588	23846	19719	87987	( 100 )	2	2	199	192	395	( 0 )	88382
Panama Rep	72191	107709	16939	21772	218611	( 99 )	289	886	704	659	2538	( 1 )	221149
Caribbean	976884	3264718	559522	858824	5659948	( 90 )	42094	371066	36859	189855	639874	( 10 )	6299822
Anguilla Isl	3449	17672	7397	5951	34469	( 85 )	558	840	31	212	1641	( 5 )	38110
Antigua/Brbdu	28741	94758	18264	19949	181712	( 100 )	84	323	163	188	758	( 0 )	182470
Aruba	34608	210883	30314	92130	367933	( 86 )	1020	44814	1225	15036	62085	( 14 )	430028
Bahama Islds	282500	723344	90084	76778	1174706	( 82 )	10092	180749	4863	73616	249320	( 18 )	1424028
Barbados	53418	101633	14185	21251	190487	( 87 )	875	2814	182	2152	5823	( 3 )	186310
Bermuda	20010	412868	189	1627	434774	( 87 )	125	7300	132	4203	11780	( 3 )	446534
Cuba	1356	6336	881	1025	9598	( 15 )	11798	27821	5542	8942	54103	( 85 )	83701
Dominica	2	6	4	1	13	( 1 )	307	1071	688	382	2428	( 89 )	2441
Dominican Re	224476	592500	74187	161760	1052823	( 88 )	1080	6899	4882	5007	17448	( 2 )	1070371
Grand Cayman	24817	144751	33385	60546	263508	( 80 )	849	11711	4178	13829	30385	( 10 )	293874
Grenada/S Gr	6084	27168	5153	5197	43802	( 86 )	385	182	1016	439	2022	( 4 )	45824
Guadeloupe	10793	11595	2528	2241	27157	( 94 )	1022	378	278	83	1759	( 8 )	28916
Haiti	32473	84890	3943	9449	130755	( 86 )	1487	2316	1052	987	5822	( 4 )	136577
Jamaica	108007	348126	179417	281924	913474	( 88 )	5288	88874	5228	47034	128205	( 12 )	1039879
Martinique	10255	8903	729	166	20053	( 86 )	3320	6881	211	129	10541	( 34 )	30594
Montserrat I	5	16	0	0	21	( 33 )	0	3	32	8	43	( 67 )	64
Neth Antilils	80683	241675	31588	38971	373817	( 86 )	614	8830	2215	8548	18207	( 4 )	390124
St Kitt/Nevs	7285	38241	378	412	44326	( 87 )	489	4477	75	1884	8725	( 13 )	51051
St Lucia	13990	59587	3141	2667	79385	( 89 )	637	7367	181	2102	10287	( 11 )	88672
St Vincent	2	2	1	2	7	( 47 )	1	7	0	0	8	( 53 )	15
Trinidad/Tob	27830	48313	49538	46322	170003	( 95 )	1291	1739	2717	4069	9816	( 5 )	179818
Turks/Caicos	12879	34256	2509	2068	51712	( 80 )	586	6751	2102	3100	12539	( 20 )	84251
Virgin Is-UK	15213	63095	11717	25387	115412	( 98 )	225	1519	70	345	2159	( 2 )	117571
South America	1018710	845724	1018368	538137	3220937	( 98 )	33345	7588	23682	9837	74462	( 2 )	3285389
Argentina	189381	79202	103444	36876	408703	( 100 )	815	191	317	98	1419	( 0 )	410122
Bolivia	18136	19259	24846	13408	75449	( 89 )	1	0	448	217	868	( 1 )	76115
Brazil	245135	94594	363943	121728	825400	( 94 )	29450	3669	17254	2245	52818	( 6 )	878018
Chile	81091	49864	68704	38784	218423	( 100 )	260	282	133	85	740	( 0 )	219183
Colombia	112289	104370	117133	104491	438283	( 99 )	894	940	1125	1958	4917	( 1 )	443200

Source: DOT/TSC 192 Data Base, Form INSLA

Date Retrieved : 05/18/95

## APPENDIX 1 (Cont'd)

U.S. Arrivals  
Calendar Year 1994TABLE 1a - Passenger Travel Between U.S. And Foreign Countries  
Distribution by Scheduled and Chartered Flights  
Commercial Traffic Only

Page: 1a- 2

Country	* * * U.S. Flag * Aliens Citizens	Scheduled Flights Foreign Flag Aliens Citizens	Total (%)	* * * U.S. Flag * Aliens Citizens	Chartered Flights Foreign Flag Aliens Citizens	Total (%)	* * * Grand * Total				
Ecuador	81288	80137	50599	58492	250484 ( 99)	290	395	442	253	1380 ( 1)	251874
Fr. Guiana	0	0	202	76	278 ( 100)	0	0	0	0	0 ( 0)	278
Guyana	88	141	12855	28441	41605 ( 84)	755	1704	1028	4174	7861 ( 16)	49266
Paraguay	289	93	5888	2998	9228 ( 100)	0	0	0	0	0 ( 0)	9228
Peru	61509	62859	85003	45648	254820 ( 100)	20	54	153	91	318 ( 0)	255138
Surinam	19	8	53	30	108 ( 18)	292	172	0	0	464 ( 81)	572
Uruguay	0	0	1	0	1 ( 100)	0	0	0	0	0 ( 0)	1
Venezuela	289547	155399	185815	87384	698145 ( 98)	568	181	2792	738	4279 ( 1)	702424
Europe	3298179	4245098	4771336	4034333	16346946 ( 95)	105962	118342	550876	72718	847898 ( 5)	17194844
Austria	13186	12060	26438	22789	74433 ( 100)	63	45	0	0	108 ( 0)	74541
Belgium	122886	98951	68068	85505	373420 ( 98)	424	76	2009	599	3108 ( 1)	376528
Bulgaria	0	0	7410	7111	14521 ( 100)	0	0	0	0	0 ( 0)	14521
Czechoslovak	0	0	18406	19023	37429 ( 100)	0	0	0	0	0 ( 0)	37429
Denmark	25632	19128	117866	104201	266825 ( 100)	88	42	0	0	130 ( 0)	268955
Finland	18485	10001	68549	48883	143918 ( 100)	161	140	99	75	475 ( 0)	144393
France	518686	738445	378741	301047	1935899 ( 98)	40044	31729	5156	4330	81259 ( 4)	2017158
Germany	717276	912578	698815	486307	2824976 ( 98)	5887	18239	25867	7958	57951 ( 2)	2882927
Greece	18246	85587	24607	60466	188906 ( 94)	994	8572	116	2085	11787 ( 6)	200673
Hungary	1528	1774	16889	20311	40502 ( 98)	0	0	122	118	240 ( 1)	40742
Iceland	12	481	77718	34708	112917 ( 98)	205	1274	588	189	2257 ( 2)	115174
Ireland	35875	91791	215143	280153	632962 ( 98)	8583	16250	1387	613	26833 ( 4)	659785
Italy	177144	291089	216014	257987	942214 ( 99)	3906	6342	701	245	11194 ( 1)	953408
Luxembourg	0	0	4352	1021	5373 ( 100)	0	0	8	2	8 ( 0)	5381
Netherlands	159380	223576	526443	409065	1318464 ( 92)	1116	910	80112	26434	108572 ( 8)	1427036
Norway	9321	8238	25936	18183	61678 ( 100)	0	0	0	0	0 ( 0)	61678
Poland	16883	14218	33527	78478	143117 ( 100)	81	52	161	373	687 ( 0)	143784
Portugal	21515	48591	25473	53524	149103 ( 90)	2021	13585	407	775	16788 ( 10)	165891
Rumania	70	109	9203	11878	21261 ( 100)	0	0	25	8	31 ( 0)	21292
Spain	158065	203000	114823	78858	555766 ( 96)	8206	8208	4864	2477	21755 ( 4)	577521
Sweden	51331	29781	35989	20436	137547 ( 100)	88	77	148	108	421 ( 0)	137968
Switzerland	113037	97033	223827	221682	655379 ( 97)	190	167	16473	3750	20580 ( 3)	675959
Ukraine	35	21	4087	2042	6165 ( 97)	0	0	154	19	173 ( 3)	6338
Union Sov SR	19807	23897	38057	12803	94664 ( 94)	3897	767	827	84	5575 ( 6)	100239
Unit Kingdom	1100879	1335771	1795110	1377845	5609405 ( 92)	30008	13867	411653	22478	478006 ( 8)	8087411
Africa	12469	14088	82633	78586	187786 ( 99)	1019	274	761	234	2288 ( 1)	190074
Arab R/Egypt	4159	9331	18242	21311	53043 ( 99)	30	87	187	190	494 ( 1)	53537
Bentin (Dmy)	0	1	0	0	1 ( 100)	0	0	0	0	0 ( 0)	1
Cape Verde I	8334	3705	9863	10210	29912 ( 99)	167	147	0	0	314 ( 1)	30226
Ghana	0	0	701	918	1617 ( 100)	0	0	0	0	0 ( 0)	1617
Ivory Coast	0	0	4021	3286	7317 ( 100)	0	0	0	0	0 ( 0)	7317
Morocco	0	0	11896	15188	27084 ( 100)	0	0	0	0	0 ( 0)	27084
Sao Tome/Prn	0	0	565	23	588 ( 34)	822	40	267	14	1143 ( 66)	1731
Senegal	0	0	9362	7482	16844 ( 98)	0	0	307	30	337 ( 2)	17181

Source: DOT/TSC 192 Data Base, Form INS-1A

Date Retrieved : 05/18/95

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**Date Retrieved : 05/18/95**

U.S. Departures  
Calendar Year 1994

TABLE 1d - Passenger Travel Between U.S. And Foreign Countries  
Distribution by Scheduled and Chartered Flights  
Commercial Traffic Only

Page: 1d- 1

Country	* U.S. Flag * Aliens Citizens	Scheduled Flights Foreign Flag Aliens Citizens	Total (%)	* U.S. Flag * Aliens Citizens	Chartered Flights Foreign Flag Aliens Citizens	Total (%)	* Grand Total						
ALL COUNTRIES	8695938	12100319	9532073	8606324	38934654	( 96 )	137297	421889	533198	321844	1414226	( 4 )	40348880
Central Am & Mx	1116819	2469782	679095	1578357	5863853	( 96 )	15151	120781	30042	89499	255473	( 4 )	8119326
Belize	8804	39873	12332	36355	97364	( 99 )	24	512	1	79	616	( 1 )	97980
Costa Rica	71981	169437	43240	68167	350825	( 98 )	189	1126	2142	2182	5639	( 2 )	356484
El Salvador	28868	58328	34576	65912	186482	( 98 )	49	145	589	2686	3489	( 2 )	189551
Guatemala	80152	138890	47264	113876	380782	( 99 )	14	68	2254	2310	4644	( 1 )	395428
Honduras	34770	83477	15798	34454	148488	( 100 )	1	98	10	44	153	( 0 )	148652
Mexico	798532	1884831	491807	1218650	4391920	( 95 )	14768	118721	24642	81608	238737	( 5 )	4631657
Nicaragua	17345	26054	18878	25923	88200	( 100 )	84	45	176	130	415	( 0 )	88815
Panama Rep	65369	108982	15200	19220	208781	( 100 )	42	68	228	462	800	( 0 )	210581
Caribbean	776836	2741038	449796	755765	4723435	( 93 )	29965	202566	26167	79505	338203	( 7 )	5081638
Anguilla Isl	2992	14601	1711	1733	21037	( 95 )	427	698	1	13	1139	( 5 )	22176
Antigua/Brbdu	23025	93775	12294	17611	146705	( 100 )	100	297	75	157	629	( 0 )	147334
Aruba	21114	171424	21032	43121	256891	( 93 )	833	10718	1478	5059	18088	( 7 )	274779
Bahama Islds	203722	456601	56111	75655	792089	( 82 )	14845	114171	8058	38006	171080	( 18 )	963168
Barbados	47538	108414	20465	28883	205300	( 98 )	157	1810	210	188	2485	( 1 )	207765
Bermuda	16858	220396	7	255	237316	( 98 )	155	1789	183	2369	4496	( 2 )	241812
Cuba	279	721	109	129	1238	( 3 )	7072	21375	7107	8692	44246	( 97 )	45484
Dominica	5	39	413	318	775	( 42 )	94	97	584	300	1075	( 58 )	1850
Dominican Re	191335	593284	58537	128607	972763	( 99 )	531	2868	1473	2737	7609	( 1 )	980372
Grand Cayman	17247	139373	32586	68456	255682	( 98 )	96	1822	9	842	2869	( 1 )	258531
Grenada/S Gr	5429	25403	2097	6438	39367	( 100 )	0	0	5	22	27	( 0 )	39394
Guadeloupe	10145	12085	2556	1394	26180	( 96 )	575	70	316	38	1000	( 4 )	27180
Haiti	21673	78091	3396	12432	115592	( 98 )	346	688	706	776	2498	( 2 )	116088
Jamaica	84712	348255	157187	267354	857508	( 94 )	2223	32116	3963	13079	51381	( 6 )	908889
Martinique	9548	9742	802	286	20378	( 84 )	1568	1867	209	208	3850	( 16 )	24228
Montserrat I	0	0	360	273	633	( 94 )	0	0	36	2	38	( 6 )	671
Neth Antills	54273	245688	28950	33989	362810	( 99 )	156	1177	1073	2855	5061	( 1 )	387971
St Kitt/Nevis	6213	28891	2756	2581	41421	( 90 )	186	3860	17	636	4789	( 10 )	46220
St Lucia	12583	62625	2948	3722	81878	( 92 )	317	3985	500	2452	7234	( 8 )	89112
St Vincent	0	0	51	38	89	( 98 )	0	2	0	0	2	( 2 )	9
Trinidad/Tob	22750	45347	30970	37645	136712	( 97 )	54	28	1759	2341	4182	( 3 )	140894
Turks/Caicos	12483	32483	3447	4322	52735	( 94 )	85	2486	286	766	3633	( 6 )	56388
Virgin Is-UK	13112	52820	11011	21533	98476	( 99 )	145	382	109	168	804	( 1 )	99280
South America	920722	691458	911776	593450	3117408	( 98 )	16381	8944	18518	7831	52674	( 2 )	3170080
Argentina	179834	91876	99982	43592	415284	( 100 )	110	70	631	527	1338	( 0 )	416822
Bolivia	17369	19845	18446	11945	67605	( 100 )	0	0	0	0	0	( 0 )	67605
Brazil	229877	107193	328752	120008	785828	( 95 )	15643	8837	13738	2168	40386	( 5 )	826214
Chile	55178	54123	58530	46471	214302	( 100 )	72	300	41	5	418	( 0 )	214722
Colombia	96791	107073	97202	113405	414471	( 100 )	98	129	437	168	832	( 0 )	415303

Source: DOT/ITSC 192 Data Base. Form INS1D Date Retrieved : 05/18/95

Source: DOT/TSC 192 Data Base, Form INS1D

Date Retrieved : 05/18/95



**U.S. Departures  
Calendar Year 1984**

**TABLE 1d - Passenger Travel Between U.S. And Foreign Countries  
Distribution by Scheduled and Chartered Flights  
Commercial Traffic Only**

Page: Id- 2

Country	U.S. Flag		Scheduled Flights		Total	(%)	U.S. Flag		Chartered Flights		Total	(%)	Grand Total
	* U.S. Citizens	* Aliens	* Foreign Citizens	* Aliens			* Foreign Citizens	* Aliens	* Aliens				
Ecuador	48808	78288	38980	61057	227115 ( 98 )	5	0	304	888	1188 ( 1 )	228313		
Guyana	0	0	7605	32682	40297 ( 92 )	173	388	799	2342	3700 ( 8 )	43987		
Paraguay	8	1	6760	3765	10535 ( 100 )	0	0	0	0	0 ( 0 )	10535		
Peru	47780	70883	80823	52322	251728 ( 100 )	3	68	173	237	478 ( 0 )	252207		
Surinam	18	94	2188	1743	4055 ( 100 )	0	0	0	0	0 ( 0 )	4055		
Uruguay	0	0	2830	2388	4988 ( 100 )	0	0	0	0	0 ( 0 )	4988		
Venezuela	244048	181271	171787	104088	681180 ( 99 )	277	158	2395	1485	4323 ( 1 )	685513		
Europe	2858105	4214483	4428014	3835725	15437387 ( 98 )	89131	80453	441359	135569	728512 ( 4 )	18183849		
Austria	8704	8764	28088	30084	73840 ( 100 )	0	0	0	0	0 ( 0 )	73840		
Belgium	111207	108210	54180	57011	330588 ( 99 )	29	71	2891	340	3131 ( 1 )	333719		
Bulgaria	0	0	5850	7252	13202 ( 100 )	0	0	0	0	0 ( 0 )	13202		
Czechoslovak	0	0	12707	17231	28838 ( 99 )	94	21	54	114	283 ( 1 )	30221		
Denmark	20243	23457	104881	105047	253838 ( 100 )	0	0	204	188	390 ( 0 )	254028		
Finland	12878	11210	57522	50763	132371 ( 98 )	302	189	1229	414	2114 ( 2 )	134485		
France	480850	707243	340788	325208	1834197 ( 97 )	28889	28059	2380	4217	61525 ( 3 )	1885722		
Germany	681228	930038	884882	474160	2750104 ( 99 )	2170	9174	17193	6884	35221 ( 1 )	2785325		
Greece	12521	86046	21851	55983	178181 ( 98 )	207	4819	75	3228	8129 ( 4 )	184310		
Hungary	780	1487	13118	20855	38220 ( 98 )	0	0	250	543	793 ( 2 )	37013		
Iceland	0	0	78384	38214	118578 ( 89 )	0	0	1720	415	1135 ( 1 )	117713		
Ireland	12831	42713	114888	190587	360889 ( 85 )	4669	10528	1872	782	19419 ( 5 )	380318		
Italy	143178	302887	192081	285283	803219 ( 98 )	2130	4752	3238	4244	14384 ( 2 )	917583		
Luxembourg	0	0	1040	84	1124 ( 100 )	0	0	0	0	0 ( 0 )	1124		
Netherlands	177157	208888	489747	387685	1261477 ( 96 )	3103	2224	37331	14404	57082 ( 4 )	1318539		
Norway	7447	9184	22818	19808	59235 ( 98 )	377	76	420	83	958 ( 2 )	80181		
Poland	0	0	28058	68800	98659 ( 100 )	0	0	172	238	408 ( 0 )	97087		
Portugal	18838	58718	22739	43843	143938 ( 93 )	859	4129	2082	3388	10438 ( 7 )	154375		
Rumania	0	0	4487	7025	11492 ( 100 )	0	0	0	0	0 ( 0 )	11492		
Spain	134124	208098	105103	88188	535511 ( 87 )	6308	3835	5284	1793	17020 ( 3 )	552531		
Sweden	43831	33881	36881	27234	141827 ( 100 )	44	123	147	49	383 ( 0 )	142180		
Switzerland	95841	108098	228748	208915	637400 ( 87 )	111	2	14208	5004	19323 ( 3 )	658723		
Ukraine	81	85	6021	5002	11169 ( 100 )	0	0	0	0	0 ( 0 )	11169		
United Sov SR	10875	28241	33928	10184	81028 ( 98 )	908	7	772	65	1752 ( 2 )	82780		
United Kingdom	1028845	1343415	1741728	1331511	5445498 ( 92 )	18931	14863	351079	87815	472888 ( 8 )	5818187		
Africa	8381	18934	87055	82030	177380 ( 98 )	296	111	501	2520	3428 ( 2 )	180808		
Arab R/Egypt	2977	10379	13071	21973	48400 ( 100 )	0	0	132	102	234 ( 0 )	48634		
Cape Verde I	3735	4728	2262	2811	13334 ( 100 )	0	0	0	0	0 ( 0 )	13334		
Congo/Brazzav	12	28	0	0	40 ( 100 )	0	0	0	0	0 ( 0 )	40		
Ghana	0	0	161	813	1074 ( 34 )	0	0	282	1818	2080 ( 66 )	3154		
Ivory Coast	0	0	311	344	655 ( 100 )	0	0	0	0	0 ( 0 )	655		
Kenya	0	0	0	0	0 ( 0 )	0	0	5	192	197 ( 100 )	197		
Morocco	0	0	8798	15241	25040 ( 99 )	0	0	3	295	298 ( 1 )	25338		
Nigeria	0	0	32	25	57 ( 46 )	0	0	35	32	67 ( 54 )	124		
Sao Tome/Prn	0	0	1375	8	1381 ( 77 )	296	111	0	0	407 ( 23 )	1788		

Source: DOT/TSC 192 Data Base, Form INS1D

Date Retrieved : 05/18/95

## APPENDIX 1 (Cont'd)

U.S. Departures  
Calendar Year 1994TABLE 1d - Passenger Travel Between U.S. And Foreign Countries  
Distribution by Scheduled and Chartered Flights  
Commercial Traffic Only

Page: 1d- 3

Country	* U.S. Flag * Aliens Citizens	Scheduled Flights Foreign Flag Aliens Citizens	Total (%)	* U.S. Flag * Aliens Citizens	Chartered Flights Foreign Flag Aliens Citizens	Total (%)	* Grand Total
Senegal	0	8140	11402 (89)	0	84	145 (1)	19887
South Africa	2637	3801	29515 (100)	0	0	0 (0)	67857
Middle East	48818	120780	196563 (99)	559	498	3214 (1)	490890
Bahrain	0	3516	3264 (100)	0	0	0 (0)	6780
Israel	48818	120780	68342 (99)	559	120	378 (1)	368805
Jordan	0	8683	25041 (100)	0	0	0 (0)	33724
Kuwait	0	264	185 (100)	0	0	0 (0)	459
Saudi Arabia	0	27059	17783 (100)	0	18	25 (0)	44767
Turkey	0	13851	23480 (97)	0	360	1024 (3)	38155
Far East	2713117	1824551	2530794 (100)	4087	1231	23867 (0)	8106397
Bangladesh	0	2071	3158 (97)	0	11	158 (3)	5398
China/Mind	1109	803	23082 (100)	0	74	91 (0)	51611
China/Taiwan	86274	97459	323202 (89)	11	3233	4386 (1)	803213
Hong Kong	101231	215154	147853 (99)	0	1168	2789 (1)	544717
India	833	4684	15310 (99)	51	61	810 (1)	63815
Indonesia	3115	37450	20879 (100)	0	1	2 (0)	79628
Japan	2242763	919916	1577580 (100)	3779	558	12529 (0)	4954047
Korea-South	258781	277809	322614 (100)	230	136	1911 (0)	1082211
Malaysia	0	25449	28468 (100)	0	0	0 (0)	51917
Philippines	18318	61833	113182 (100)	16	136	152 (0)	228154
Russia	1124	3314	3529 (100)	0	8	8 (0)	10259
Singapore	1300	5886	87496 (100)	0	90	588 (0)	180807
Thailand	358	235	22020 (100)	0	117	244 (0)	50726
Oceania	151580	199283	344028 (99)	1727	5695	11055 (1)	1058092
Australia	69218	86182	195693 (100)	0	273	355 (0)	521764
Cook Islands	0	5091	170043 (99)	0	44	94 (1)	11224
Fiji Islands	0	33753	48132 (100)	0	218	218 (0)	82103
Fr Polynesia	7871	3949	38197 (93)	1380	5427	7478 (7)	100857
Kiribati	116	148	307 (100)	4	1	5 (0)	1246
Marshall Is	2230	1543	276 (93)	132	81	264 (7)	4037
Micronesia	8243	43473	276 (100)	0	0	0 (0)	52092
Nauru Repub	0	619	341 (100)	0	0	0 (0)	880
New Zealand	63882	63988	70012 (99)	211	186	2370 (1)	281828
Tonga	0	80	99 (100)	0	0	0 (0)	179

Source: DOT/TSC 192 Data Base, Form INSID

Date Retrieved: 05/18/95

APPENDIX 2

U.S. and foreign carriers that operated large aircraft and carried passengers over international nonstop flight segments (i.e. between one U.S. and one foreign point) during 1994. Carriers that reported carrying passengers on a scheduled or charter basis are included. DOT T-100 data are the source for the carrier lists. Carrier names may be truncated to accommodate available space.

## U.S. Carriers:

ALASKA AIRLINES	EVERGREEN INTERNATIONAL	RYAN INTERNATIONAL AIRLINES
AMERICA WEST AIRLINES	EXECUTIVE AIRLINES	SIERRA PACIFIC AIRLINES
AMERICAN AIRLINES	EXPRESS ONE INT'L	SIMMONS AIRLINES
AMERICAN TRANS AIR	HAWAIIAN AIRLINES	SPORTSFLIGHT AIRWAYS
ARROW AIR	HORIZON AIRLINES	SUN COUNTRY AIRLINES
AV ATLANTIC	KIWI INTERNATIONAL	TOWER AIR
BUSINESS EXPRESS	MGM GRAND AIR	TRANS WORLD AIRLINES
CAPITOL AIR EXPRESS	MIAMI AIR INTERNATIONAL	UNITED AIR LINES
CARNIVAL AIR LINES	MORRIS AIR CORPORATION	USAFRICA AIRWAYS
CONTINENTAL AIR LINES	NORTH AMERICAN AIRLINES	USAIR
CONTINENTAL MICRONESIA	NORTHWEST AIRLINES	VISCOUNT AIR SERVICE
DELTA AIR LINES	PRIVATE JET EXPEDITIONS	WORLD AIRWAYS
EAGLE AIRLINES	RICH INT'L AIRWAYS	WORLDWIDE AIRLINES SERVICES

## Foreign Carriers:

ACES AIRLINES	AIR PACIFIC LTD.	CARIBBEAN AIR CO. LIMITED
AER LINGUS PLC	AIR TRANSAT	CATHAY PACIFIC AIRWAYS, LTD.
AERO CALIFORNIA	AIR UKRAINE	CAYMAN AIRWAYS LIMITED
AERO COSTA RICA	AIR-INDIA	CHINA AIRLINES, LTD.
AERO PERU	AIRBC, LTD.	CHINA EASTERN AIRLINES
AEROEJECUTIVO, C.A.	AIRTOURS INT'L AIRWAYS	COMPAGNIE NAT'L AIR FRANCE
AEROFLOT RUSSIAN AIRLINES	ALIA-ROYAL JORDANIAN	COMPAN. DE AVIACION FAUCETT
AEROLINEAS ARGENTINAS	ALITALIA-LINEE AEREE ITALIANE	COMPANIA DOMINICANA DE AVIA.
AEROMEXICO	ALL NIPPON AIRWAYS CO.	COMPANIA MEXICANA DE AVIA.
AERONAUTICA DE CANCUN	ALM ANTILLEAN AIRLINES	COMPANIA PANAMENA (COPA)
AEROVAIS NAC'L DE COLOMBIA	ANTIQUA PARADISE AIRWAYS	CONDOR FLUGDIENST
AEROVIAS VENEZOLANAS-AVENSA	AOM MINERVE, S.A.	CORSE AIR INTERNATIONAL
AIR 2000 LIMITED	APA INTERNATIONAL AIR	CZECHOSLOVAK AIRLINES
AIR AFRIQUE	ASIANA AIRLINES	EGYPTAIR
AIR ARUBA	AUSTRIAN AIRLINES	EL AL ISRAEL AIRLINES LTD.
AIR CANADA	AVIATECA	EVA AIRWAYS CORPORATION
AIR CHARTER (SAFA)	BAHAMASAIR HOLDING LIMITED	FINNAIR OY
AIR CHINA	BALAIR AG	GULF AIR COMPANY
AIR CLUB INTERNATIONAL	BALKAN BULGARIAN AIRLINES	GUYANA AIRWAYS CORPORATION
AIR COLUMBUS	BIMAN BANGLADESH AIRLINES	HAITI TRANS AIR
AIR EUROPA	BRADLEY AIR SERVICES LTD.	HAPAG-LLOYD FLUGGESELLSCHAFT
AIR EUROPE LIMITED	BRITANNIA AIRWAYS LTD.	IBERIA AIR LINES OF SPAIN
AIR JAMAICA LIMITED	BRITISH AIRTOURS LIMITED	ICELANDAIR
AIR MARSHALL ISLANDS, INC.	BRITISH AIRWAYS PLC	JAPAN AIR CHARTER CO., LTD.
AIR NAURU	BRITISH WEST INDIAN AIRWAYS	JAPAN AIR LINES CO., LTD.
AIR NEW ZEALAND	CANADA 3000 AIRLINES, LTD.	JAPAN AIR SYSTEM CO., LTD.
AIR NOVA	CANADIAN AIRLINES INT'L LTD.	JAPAN ASIA AIRWAYS

APPENDIX 2 (Cont'd)

## Foreign Carriers (Cont'd):

KLM ROYAL DUTCH AIRLINES  
KOREAN AIR LINES CO., LTD.  
KUWAIT AIRWAYS, CORP.  
LACSA  
LADECO  
LAKER AIRWAYS  
LAN-CHILE AIRLINES  
LAUDA AIR LUFTFAHRT AG  
LEISURE INT'L AIRWAYS LTD.  
LINEAS AEREAS ALLEGRO  
LINEAS AEREAS PARAGUAYAS  
LLOYD AEREO BOLIVIANA S.A.  
LUFTHANSA GERMAN AIRLINES  
LUFTRANSPORT-UNTERNEHMEN  
MALAYSIAN AIRLINE SYSTEM  
MALEV HUNGARIAN AIRLINES  
MARTINAIR HOLLAND N.V.  
MONARCH AIRLINES  
NICARAGUENSE DE AVIACION SA

OLYMPIC AIRWAYS  
P.T. GARUDA INDONESIAN ARWY  
PAKISTAN INT'L AIRLINES  
PHILIPPINE AIRLINES, INC.  
POLSKIE LINIE LOTNICZE  
POLYNESIAN AIRLINES LTD.  
QANTAS AIRWAYS LTD.  
QUASSAR DE MEXICO  
ROYAL AIR MAROC  
SABENA BELGIAN WORLD AIR.  
SAETA AIRLINES  
SAUDI ARABIAN AIRLINES CORP.  
SCANDINAVIAN AIRLINES SYS.  
SERV. AEROLINEAS MEXICANAS  
SERVICIO AEREO LEO LOPEZ  
SERVICIOS AVENSA  
SINGAPORE AIRLINES LTD.  
SKY SERVICE F.B.O.  
SKYJET, S.A.

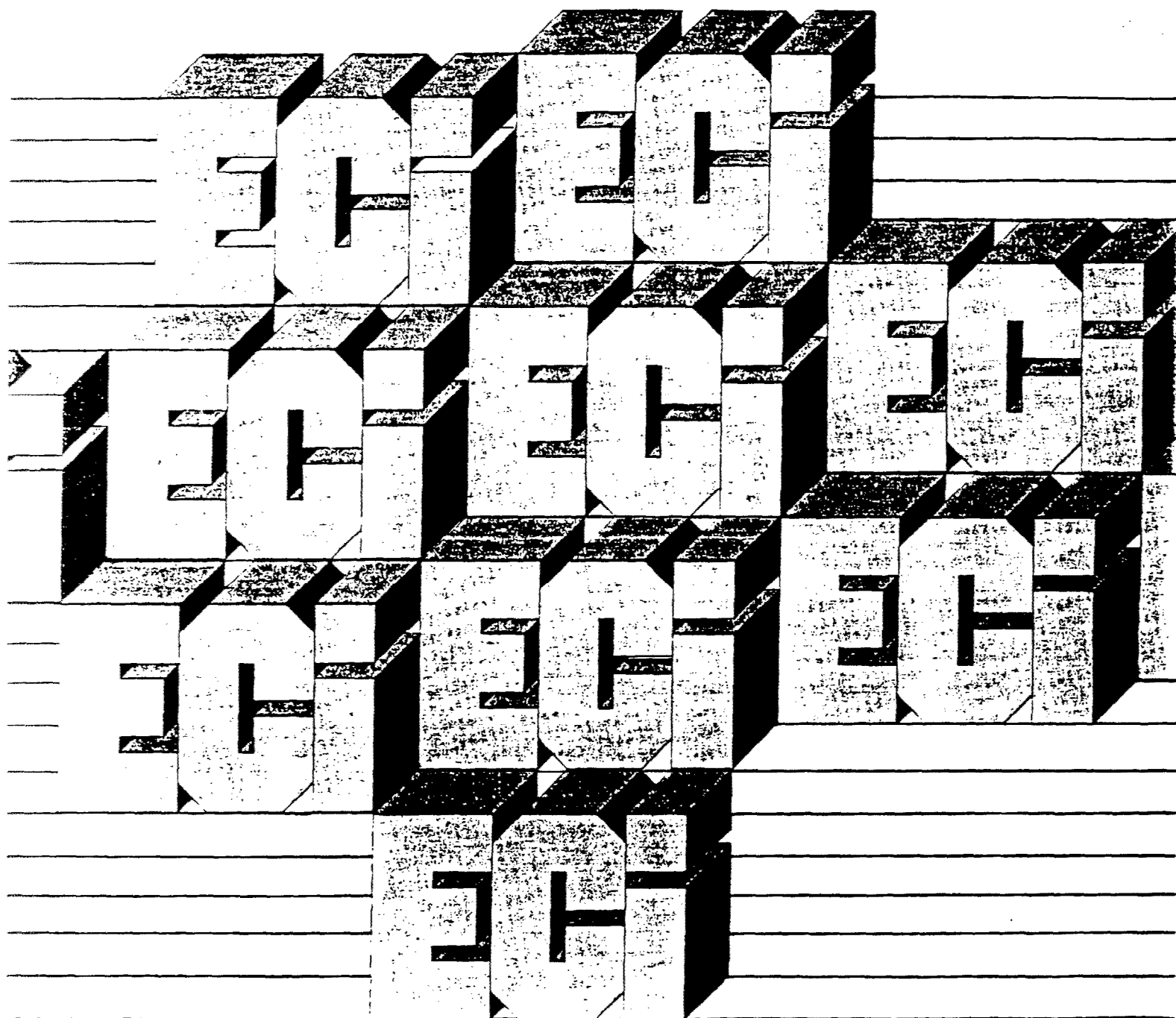
SOUTH AFRICAN AIRWAYS  
SPANAIR S.A.  
SWISSAIR TRANSPORT CO., LTD  
TACA INT'L AIRLINES  
TAP-PORTUGUESE AIRLINES  
TAROM ROMANIAN AIR TRANSPORT  
THAI AIRWAYS INT'L LTD.  
TIME AIR, LTD.  
TRANSBRASIL, S.A.  
TRANSLIFT AIRWAYS LIMITED  
TRANSP. AEREOS EJECUTIVOS  
TRANSPORTES AEREOS DE CABO  
TURK HAVA YOLLARI, A.O.  
VARIG, S.A.  
VENEZUELAN INT'L AIRWAYS  
VIACAO AEREA SAO PAULO  
VIRGIN ATLANTIC AIRWAYS  
ZULIANA DE AVIACION

# Employment Cost Indexes and Levels, 1975-95



U.S. Department of Labor  
Bureau of Labor Statistics  
October 1995

Bulletin 2466





# **Employment Cost Indexes and Levels, 1975-95**

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U.S. Department of Labor  
Robert B. Reich, Secretary

Bureau of Labor Statistics  
Katharine G. Abraham, Commissioner

October 1995

Bulletin 2466

## APPENDIX 3 (Cont'd)

Table 6. Total compensation,<sup>1</sup> private industry workers: Employment Cost Index by occupational and industry group, 1979-95—Continued

(Not seasonally adjusted)

Series and year	Indexes (June 1989=100)				Percent changes for							
	March	June	Sept.	Dec.	3 months ended--				12 months ended--			
					March	June	Sept.	Dec.	March	June	Sept.	Dec.
White-collar occupations excluding sales:												
1989	99.0	100.0	101.3	102.2	1.5	1.0	1.3	0.9	4.8	4.7	4.8	4.8
1990	104.2	105.4	106.9	107.7	2.0	1.2	1.4	.7	5.3	5.4	5.5	5.4
1991	109.2	110.4	111.8	112.7	1.4	1.1	1.3	.8	4.8	4.7	4.6	4.6
1992	113.8	114.6	115.8	116.6	1.0	.7	1.0	.7	4.2	3.8	3.6	3.5
1993	118.3	119.2	120.2	121.0	1.5	.8	.8	.7	4.0	4.0	3.8	3.8
1994	122.4	123.3	124.4	125.1	1.2	.7	.9	.6	3.5	3.4	3.5	3.4
1995	126.3	127.0	-	-	1.0	.6	-	-	3.2	3.0	-	-
Professional specialty and technical occupations:												
1985	-	-	-	86.1	-	-	-	-	-	-	-	-
1986	87.1	87.8	88.6	89.3	1.2	.8	.9	.8	-	-	-	3.7
1987	90.3	90.8	92.1	92.9	1.1	.6	1.4	.9	3.7	3.4	4.0	4.0
1988	94.3	95.4	96.9	97.5	1.5	1.2	1.6	.6	4.4	5.1	5.2	5.0
1989	99.0	100.0	101.8	102.9	1.5	1.0	1.8	1.1	5.0	4.8	5.1	5.5
1990	104.9	105.8	107.5	108.7	1.9	.9	1.6	1.1	6.0	5.8	5.6	5.8
1991	110.1	111.1	112.8	113.9	1.3	.9	1.5	1.0	5.0	5.0	4.9	4.8
1992	115.3	116.4	118.0	119.0	1.2	1.0	1.4	.8	4.7	4.8	4.6	4.5
1993	120.4	121.3	122.2	122.9	1.2	.7	.7	.8	4.4	4.2	3.6	3.3
1994	124.6	125.3	126.3	126.8	1.4	.6	.8	.4	3.5	3.3	3.4	3.2
1995	127.7	128.4	-	-	.7	.5	-	-	2.5	2.5	-	-
Executive, administrative, and managerial occupations:												
1985	-	-	-	86.4	-	-	-	-	-	-	-	-
1986	87.8	88.7	89.2	89.9	1.6	1.0	.6	.8	-	-	-	4.1
1987	91.6	92.2	93.5	93.9	1.9	.7	1.4	.4	4.3	3.9	4.8	4.4
1988	94.7	95.7	96.6	97.8	.9	1.1	.9	1.2	3.4	3.8	3.3	4.2
1989	99.1	100.0	100.9	101.5	1.3	.9	.9	.8	4.8	4.5	4.5	3.8
1990	103.7	105.3	106.6	107.2	2.2	1.5	1.2	.6	4.6	5.3	5.6	5.6
1991	108.9	110.3	111.5	112.3	1.6	1.3	1.1	.7	5.0	4.7	4.6	4.8
1992	112.7	113.1	113.9	114.5	.4	.4	.7	.5	3.5	2.5	2.2	2.0
1993	116.5	117.2	118.1	118.9	1.7	.6	.8	.7	3.4	3.8	3.7	3.8
1994	120.3	121.3	122.6	123.3	1.2	.8	1.1	.6	3.3	3.5	3.8	3.7
1995	124.9	125.4	-	-	1.3	.4	-	-	3.8	3.4	-	-
Sales occupations:												
1986	87.6	88.6	89.1	89.1	-	1.1	.6	.0	-	-	-	-
1987	90.0	90.5	90.5	90.2	1.0	.6	.0	-.3	2.7	2.1	1.6	1.2
1988	91.4	93.6	94.1	96.3	1.3	2.4	.5	2.3	1.8	3.4	4.0	6.8
1989	98.3	100.0	101.9	103.3	2.1	1.7	1.9	1.4	7.5	6.8	8.3	7.3
1990	103.6	105.6	105.9	106.0	.3	1.9	.3	.1	5.4	5.6	3.9	2.8
1991	108.0	109.8	109.8	109.6	1.9	1.7	.0	-.2	4.2	4.0	3.7	3.4
1992	111.6	112.2	111.8	112.6	1.8	.5	-.4	.7	3.3	2.2	1.8	2.7
1993	112.9	113.8	115.6	116.5	.3	.8	1.6	.8	1.2	1.4	3.4	3.5
1994	117.2	118.8	119.2	119.6	.6	1.4	.3	.3	3.8	4.4	3.1	2.7
1995	120.2	122.4	-	-	.5	1.8	-	-	2.6	3.0	-	-
Administrative support including clerical occupations:												
1985	-	-	-	85.9	-	-	-	-	-	-	-	-
1986	87.0	87.8	88.3	89.0	1.3	.9	.6	.8	-	-	-	3.6
1987	90.0	90.8	91.8	92.6	1.1	.9	1.1	.9	3.4	3.4	4.0	4.0
1988	94.4	95.3	96.6	97.3	1.9	1.0	1.4	.7	4.9	5.0	5.2	5.1
1989	98.9	100.0	101.2	102.3	1.6	1.1	1.2	1.1	4.8	4.9	4.8	5.1
1990	104.2	105.3	106.4	107.3	1.9	1.1	1.0	.8	5.4	5.3	5.1	4.9
1991	108.6	109.9	111.0	111.9	1.2	1.2	1.0	.8	4.2	4.4	4.3	4.3
1992	113.6	114.4	115.5	116.4	1.5	.7	1.0	.8	4.6	4.1	4.1	4.0
1993	118.1	119.2	120.3	121.2	1.5	.9	.9	.7	4.0	4.2	4.2	4.1
1994	122.5	123.5	124.5	125.1	1.1	.8	.8	.5	3.7	3.6	3.5	3.2
1995	126.5	127.3	-	-	1.1	.8	-	-	3.3	3.1	-	-
Non-collar occupations:												
1979	-	-	-	61.3	-	-	-	-	-	-	-	-
1980	62.8	64.4	66.1	67.5	2.4	2.5	2.6	2.1	-	-	-	10.1
1981	69.8	71.1	72.7	74.0	3.1	2.2	2.3	1.8	10.8	10.4	10.0	9.8
1982	75.1	76.1	77.5	78.4	1.5	1.3	1.8	1.2	7.8	7.0	6.8	5.8
1983	78.7	80.7	81.5	82.3	1.7	1.3	1.0	1.0	6.1	6.0	5.2	5.0

Notes at end of table.

# Bureau of Labor Statistics Data

Data extracted on: August 27, 1996 (04:02 PM)

## Employment Cost Index

Series ID : ecull122i

Not Seasonally Adjusted

Compensation : Total compensation

Group : Professional, specialty, and technical occupations

Ownership : Private industry

Year	Qtr1	Qtr2	Qtr3	Qtr4	An Av
1986	87.1	87.8	88.6	89.3	n/a
1987	90.3	90.8	92.1	92.9	n/a
1988	94.3	95.4	96.9	97.5	n/a
1989	99.0	100.0	101.8	102.9	n/a
1990	104.9	105.8	107.5	108.7	n/a
1991	110.1	111.1	112.8	113.9	n/a
1992	115.3	116.4	118.0	119.0	n/a
1993	120.4	121.3	122.2	122.9	n/a
1994	124.6	125.3	126.3	126.8	n/a
1995	127.7	128.4	129.3	129.9	n/a
1996	131.6	132.6			n/a

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Series ID : ecull142i

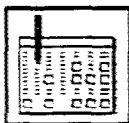
Not Seasonally Adjusted

Compensation : Total compensation

Group : Administrative support, including clerical, occupations

Ownership : Private industry

Year	Qtr1	Qtr2	Qtr3	Qtr4	An Av
1986	87.0	87.8	88.3	89.0	n/a
1987	90.0	90.8	91.8	92.6	n/a
1988	94.4	95.3	96.6	97.3	n/a
1989	98.9	100.0	101.2	102.3	n/a
1990	104.2	105.3	106.4	107.3	n/a
1991	108.6	109.9	111.0	111.9	n/a
1992	113.6	114.4	115.5	116.4	n/a
1993	118.1	119.2	120.3	121.2	n/a
1994	122.5	123.5	124.5	125.1	n/a
1995	126.5	127.3	128.1	129.0	n/a
1996	130.1	130.8			n/a





## APPENDIX 4

Table 10. PRIVATE INDUSTRY BY OCCUPATIONAL AND INDUSTRY CATEGORIES: Employer costs per hour worked for employee compensation, and costs as a percent of total compensation, March 1994.

Series	Total compensation	Wages and salaries	Benefit costs						
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legality required benefits	Other benefits <sup>1</sup>
	Cost per hour worked								
All workers in private industry .....	\$17.08	\$12.14	\$4.94	\$1.11	\$0.44	\$1.23	\$0.52	\$1.60	\$0.04
Occupational group									
White-collar occupations .....	20.26	14.72	5.54	1.46	.47	1.36	.59	1.60	.05
Professional specialty and technical .....	27.66	20.14	7.52	2.10	.61	1.74	.91	2.11	.05
Professional .....	29.25	21.40	7.85	2.20	.67	1.75	.97	2.21	.06
Technical .....	23.95	17.19	6.76	1.89	.47	1.71	.78	1.89	.03
Executive, administrative, managerial .....	31.13	22.50	8.63	2.59	.84	1.76	.95	2.33	.16
Sales occupations .....	13.82	10.56	3.26	.65	.36	.75	.27	1.22	( <sup>2</sup> )
Administrative support including clerical .....	14.66	10.36	4.29	1.05	.29	1.32	.42	1.19	.02
Blue-collar occupations .....	16.92	11.31	5.62	.97	.58	1.45	.63	1.94	.05
Precision production, craft, and repair .....	21.74	14.63	7.11	1.30	.70	1.75	.84	2.46	.05
Machine operators, assemblers, and inspectors .....	16.04	10.30	5.74	1.04	.71	1.64	.61	1.65	.09
Transportation and material moving .....	17.08	11.41	5.67	.93	.49	1.38	.67	2.17	.03
Handlers, equipment cleaners, helpers, and laborers .....	11.96	8.29	3.67	.54	.35	.93	.36	1.48	( <sup>2</sup> )
Service occupations .....	8.38	6.33	2.05	.36	.12	.47	.12	.98	( <sup>2</sup> )
Industry group									
Goods-producing industries <sup>3</sup> .....	20.85	13.87	6.98	1.38	.71	1.85	.85	2.08	.11
Construction .....	20.59	14.14	6.45	.64	.61	1.88	.91	2.91	( <sup>2</sup> )
Manufacturing industries .....	20.72	13.69	7.03	1.55	.72	1.96	.81	1.87	.12
Durables .....	22.47	14.52	7.95	1.72	.83	2.25	.94	2.01	.19
Nondurables .....	18.42	12.60	5.82	1.32	.57	1.58	.64	1.70	.03
Service-producing industries <sup>4</sup> .....	15.82	11.56	4.26	1.02	.36	1.03	.41	1.44	.02
Transportation and public utilities .....	24.58	16.68	7.89	1.96	.54	2.08	.94	2.34	.03
Wholesale trade .....	18.42	13.11	5.31	1.20	.48	1.42	.47	1.72	.02
Retail trade .....	9.17	7.14	2.03	.37	.14	.40	.11	1.01	( <sup>2</sup> )
Finance, insurance, and real estate .....	21.02	15.04	5.99	1.50	.81	1.43	.68	1.52	.05
Services .....	16.79	12.37	4.42	1.12	.33	1.06	.43	1.47	.02
	Percent of total compensation								
All workers in private industry .....	100.0%	71.1%	28.9%	6.5%	2.6%	7.2%	3.0%	9.4%	0.2%
Occupational group									
White-collar occupations .....	100.0	72.7	27.3	7.2	2.3	6.7	2.9	7.9	.2
Professional specialty and technical .....	100.0	72.8	27.2	7.6	2.2	6.3	3.3	7.6	.2
Professional .....	100.0	73.2	26.8	7.5	2.3	6.0	3.3	7.6	.2
Technical .....	100.0	71.8	28.2	7.9	2.0	7.1	3.3	7.9	.1
Executive, administrative, managerial .....	100.0	72.3	27.7	8.3	2.7	5.7	3.1	7.5	.5
Sales occupations .....	100.0	76.4	23.6	4.7	2.6	5.4	2.0	8.8	( <sup>2</sup> )
Administrative support including clerical .....	100.0	70.7	29.3	7.2	2.0	8.0	2.9	8.2	.1
Blue-collar occupations .....	100.0	66.8	33.2	5.7	3.4	8.6	3.7	11.4	.3
Precision production, craft, and repair .....	100.0	67.3	32.7	6.0	3.2	8.1	3.9	11.3	.2
Machine operators, assemblers, and inspectors .....	100.0	64.2	35.8	6.5	4.5	10.2	3.8	10.3	.6
Transportation and material moving .....	100.0	66.8	33.2	5.5	2.9	8.1	3.8	12.7	.2
Handlers, equipment cleaners, helpers, and laborers .....	100.0	69.3	30.7	4.5	2.9	7.8	3.0	12.4	( <sup>2</sup> )
Service occupations .....	100.0	75.5	24.5	4.3	1.4	5.6	1.4	11.7	( <sup>2</sup> )
Industry group									
Goods-producing industries <sup>3</sup> .....	100.0	66.5	33.5	6.6	3.4	8.9	4.1	10.0	.5
Construction .....	100.0	66.7	31.3	3.1	3.0	6.7	4.4	14.1	( <sup>2</sup> )
Manufacturing industries .....	100.0	68.1	33.9	7.5	3.5	9.5	3.9	9.0	.6
Durables .....	100.0	64.6	35.4	7.7	3.7	10.0	4.2	8.9	.9
Nondurables .....	100.0	68.4	31.6	7.2	3.1	8.6	3.4	9.2	.1
Service-producing industries <sup>4</sup> .....	100.0	73.1	26.9	6.4	2.2	6.5	2.6	9.1	.1
Transportation and public utilities .....	100.0	67.9	32.1	8.0	2.2	8.5	3.8	9.5	.1
Wholesale trade .....	100.0	71.2	28.8	6.5	2.6	7.7	2.6	9.4	.1
Retail trade .....	100.0	77.9	22.1	4.0	1.6	4.4	1.2	11.0	( <sup>2</sup> )
Finance, insurance, and real estate .....	100.0	71.5	28.5	7.1	3.8	6.8	3.2	7.2	.2
Services .....	100.0	73.6	26.4	6.7	2.0	6.3	2.6	8.8	.1

<sup>1</sup> Includes severance pay and supplemental unemployment benefits.<sup>2</sup> Cost per hour worked is \$0.01 or less.<sup>3</sup> Includes mining, construction, and manufacturing.<sup>4</sup> Includes transportation, communication, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and service industries.

## APPENDIX 4 (Cont'd)

Table 10. PRIVATE INDUSTRY BY OCCUPATIONAL AND INDUSTRY CATEGORIES: Employer costs per hour worked for employee compensation, and costs as a percent of total compensation, March 1995

Series	Total compensation	Wages and salaries	Benefit costs						
			Total	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits	Other benefits <sup>1</sup>
Cost per hour worked									
All workers in private industry .....	\$17.10	\$12.25	\$4.85	\$1.09	\$0.47	\$1.15	\$0.52	\$1.59	\$0.03
Occupational group									
White-collar occupations .....	20.50	14.98	5.53	1.45	.52	1.29	.61	1.62	.03
Professional specialty and technical .....	28.18	20.65	7.54	2.10	.63	1.67	.91	2.17	.05
Professional .....	29.95	22.04	7.91	2.22	.68	1.71	.96	2.27	.06
Technical .....	23.76	17.15	6.60	1.78	.50	1.57	.79	1.82	.04
Executive, administrative, managerial .....	32.43	23.38	9.06	2.67	1.11	1.73	1.12	2.37	.06
Sales occupations .....	13.63	10.47	3.16	.63	.34	.71	.26	1.22	( <sup>2</sup> )
Administrative support including clerical .....	14.64	10.47	4.17	1.02	.30	1.22	.42	1.20	.02
Blue-collar occupations .....	16.69	11.28	5.42	.94	.60	1.34	.60	1.90	.04
Precision production, craft, and repair .....	21.70	14.72	6.98	1.28	.72	1.67	.82	2.44	.06
Machine operators, assemblers, and inspectors .....	15.22	9.93	5.29	.97	.70	1.43	.53	1.58	.07
Transportation and material moving .....	16.97	11.42	5.55	.88	.56	1.31	.65	2.14	( <sup>2</sup> )
Handlers, equipment cleaners, helpers, and laborers .....	11.62	8.18	3.44	.48	.36	.83	.35	1.41	( <sup>2</sup> )
Service occupations .....	8.39	6.35	2.04	.36	.13	.45	.11	.99	( <sup>2</sup> )
Industry group									
Goods-producing industries <sup>3</sup> .....	20.75	13.97	6.78	1.37	.78	1.66	.82	2.08	.07
Construction .....	21.03	14.42	6.61	.66	.67	1.41	.96	2.90	( <sup>2</sup> )
Manufacturing industries .....	20.47	13.72	6.74	1.54	.80	1.72	.75	1.88	.09
Durables .....	22.29	14.64	7.65	1.68	.95	2.00	.88	2.03	.13
Nondurables .....	17.99	12.48	5.51	1.33	.59	1.33	.80	1.62	.03
Service-producing industries <sup>4</sup> .....	15.88	11.67	4.20	1.00	.37	.98	.41	1.43	( <sup>2</sup> )
Transportation and public utilities .....	23.24	15.91	7.33	1.76	.59	1.88	.86	2.22	.02
Wholesale trade .....	18.60	13.54	5.06	1.16	.49	1.23	.52	1.65	( <sup>2</sup> )
Retail trade .....	8.32	7.30	2.02	.35	.15	.40	.11	1.01	( <sup>2</sup> )
Finance, insurance, and real estate .....	21.39	15.15	6.24	1.54	.90	1.45	.74	1.56	.04
Services .....	16.92	12.53	4.39	1.12	.32	1.03	.43	1.47	( <sup>2</sup> )
Percent of total compensation									
All workers in private industry .....	100.0%	71.6%	28.4%	6.4%	2.8%	6.7%	3.0%	9.3%	0.2%
Occupational group									
White-collar occupations .....	100.0	73.0	27.0	7.1	2.5	6.3	3.0	7.9	.2
Professional specialty and technical .....	100.0	73.3	26.7	7.4	2.2	6.9	3.2	7.7	.2
Professional .....	100.0	73.6	26.4	7.4	2.3	6.7	3.2	7.6	.2
Technical .....	100.0	72.2	27.8	7.5	2.1	6.6	3.3	8.1	.2
Executive, administrative, managerial .....	100.0	72.0	28.0	8.2	3.4	5.3	3.4	7.3	.2
Sales occupations .....	100.0	76.8	23.2	4.6	2.5	6.2	1.9	9.0	( <sup>2</sup> )
Administrative support including clerical .....	100.0	71.5	28.5	7.0	2.0	6.3	2.9	8.2	.1
Blue-collar occupations .....	100.0	67.6	32.4	5.6	3.6	8.0	3.6	11.4	.2
Precision production, craft, and repair .....	100.0	67.8	32.2	5.9	3.3	7.7	3.8	11.2	.3
Machine operators, assemblers, and inspectors .....	100.0	65.2	34.8	6.4	4.6	9.4	3.5	10.4	.5
Transportation and material moving .....	100.0	67.3	32.7	5.2	3.3	7.7	3.8	12.6	( <sup>2</sup> )
Handlers, equipment cleaners, helpers, and laborers .....	100.0	70.4	29.6	4.2	3.1	7.2	3.0	12.1	( <sup>2</sup> )
Service occupations .....	100.0	76.7	24.3	4.2	1.5	5.4	1.3	11.8	( <sup>2</sup> )
Industry group									
Goods-producing industries <sup>3</sup> .....	100.0	67.3	32.7	6.6	3.7	8.0	4.0	10.0	.4
Construction .....	100.0	68.6	31.4	3.1	3.2	6.7	4.6	13.8	( <sup>2</sup> )
Manufacturing industries .....	100.0	67.0	33.0	7.5	3.9	8.4	3.7	9.1	.4
Durables .....	100.0	65.7	34.3	7.6	4.3	9.0	3.9	9.1	.6
Nondurables .....	100.0	69.4	30.6	7.4	3.3	7.4	3.3	9.0	.2
Service-producing industries <sup>4</sup> .....	100.0	73.5	26.5	6.3	2.3	6.2	2.6	9.0	( <sup>2</sup> )
Transportation and public utilities .....	100.0	68.5	31.5	7.6	2.5	8.1	3.7	9.6	.1
Wholesale trade .....	100.0	72.8	27.2	6.2	2.6	6.6	2.8	8.9	( <sup>2</sup> )
Retail trade .....	100.0	78.3	21.7	3.7	1.6	4.3	1.2	10.8	( <sup>2</sup> )
Finance, insurance, and real estate .....	100.0	70.8	29.2	7.2	4.2	6.8	3.5	7.3	.2
Services .....	100.0	74.1	25.9	6.6	1.9	6.1	2.5	8.7	( <sup>2</sup> )

<sup>1</sup> Includes severance pay and supplemental unemployment benefits.<sup>2</sup> Cost per hour worked is \$0.01 or less.<sup>3</sup> Includes mining, construction, and manufacturing.<sup>4</sup> Includes transportation, communication, and public utilities; wholesale and retail trade; finance, insurance, and real estate; and service industries.